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The Impact on Mission Readiness of Trident On-Board-Repair-Parts Inventory Reductions

Wolfe, Scott (Jeffery S.)

Monterey, California. Naval Postgraduate School

NAVAL POSTGRADUATE SCHOOL
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THE IMPACT ON MISSION READINESS OF TRIDENT ON-BOARD-REPAIR-PARTS INVENTORY REDUCTIONS

by

Scott Wolfe

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Principle Advisor: Paul J. Fields

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The study concludes that reducing Trident HM&E allownace levels up to 20% would have no impact on mission readiness. At the 20% inventory reduction level, the procurement cost savings to the OM&N appropriation for one Trident submarine is estimated to be more than $500,000 per inventory cycle.

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THE IMPACT ON MISSION READINESS OF TRIDENT ON-BOARD-REPAIR-PARTS INVENTORY REDUCTIONS

Scott Wolfe
Lieutenant, Supply Corps, United States Navy
B.A., Western Washington University, 1984

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Author: [redacted]
Scott Wolfe

Approved by: [redacted]
Paul J. Fields, Principal Advisor

[redacted]
Keebom Kang, Associate Advisor

[redacted]
David R. Whipple, Chairman
Department of Systems Management

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TABLE OF CONTENTS

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The author wants to thank Dr. Paul J. Fields and Dr. Keebom Kang for their patience and professional guidance during the process of conducting this research.

I. INTRODUCTION

A. FOCUS OF THE RESEARCH

During a prior tour as the Supply Officer aboard the Fleet Ballistic Missile (FBM) submarine, USS HENRY M. JACKSON SSBN 703 (BLUE), the author was responsible for inventory management of repair parts. The repair parts exceeded 25,000 line items and were divided into three distinct categories: Strategic Weapons System (SWS), Nuclear (Q), and Hull, Mechanical and Electrical (HM&E). This inventory reduction research was inspired by two inventory management observations while attached to the USS Henry M. Jackson. The first observation was the fact that numerous stowage lockers aboard the submarine were overcrowed. The second observation was that many parts loaded as a part of initial outfitting had not experienced a demand in the 10-year operational history of the submarine. The focus of this research is concerned solely with the HM&E inventory management aboard the Ohio class submarines. The HM&E category was chosen for two reasons. First it simplifies the data collection/analysis process by reducing the volume of data being studied. The second reason is that HM&E is a common type of inventory found on every submarine and surface ship. It is hoped that some of the conclusions found from this research will apply not only to the submarine community but to the surface Navy as well. The SWS and Q Coordinated Shipboard Allowance List (COSAL), also a part of Trident inventory management, are not included in this study. These

inventories are restricted in their application to other afloat communities and have different management objectives for stocking policies.

B. OBJECTIVES

The objectives of this thesis are threefold:

(1) Determine if reducing the amount of HM&E inventory aboard Trident submarines would significantly affect the ability of the ship on patrol to perform its mission.

(2) Determine the level of On-Board-Repair-Parts (OBRPs) reductions that would not impact mission readiness.

(3) Quantify the savings from these inventory reductions.

C. RESEARCH QUESTIONS

There are three specific research questions that must be answered to achieve the stated objectives.

(1) If the inventory level of Trident HM&E repair parts were reduced by 5%, 10%, 15% and 20%, what impact, based on the significance of the part and the APL, would the reductions have on the submarine's ability to perform its mission?

(2) Based on actual FY 94 HM&E demand data, what level of allowance reductions would not affect the ability of the submarine to complete its deterrent patrol, taking into account the significance of the parts and equipment/components to the mission of the ship?

(3) What would the projected Operations and Maintenance, Navy (OM&N) appropriation account dollar savings be for an individual Trident a well as the entire fleet of Ohio class submarines at each level of inventory reductions?

D. RESEARCH METHODOLOGY

The uniqueness of this research is that it uses actual demand data from 14 deterrent patrols carried out by fourteen Trident submarine crews (seven Tridents with two crews each). The seven submarines are operationally attached to Commander, Submarine Squadron SEVENTEEN, homeported in Bangor, WA. In order to accurately assess what effect lowering HM&E inventory levels would have on mission readiness, it was imperative to collect actual demand data for a given period. The research focuses on FY 94 data. Collecting actual HM&E demand data allowed us to directly access what effect inventory reductions would have had on supply effectiveness (an inventory management measure of effectiveness) during the FY 94 patrol cycles as well as predict the effect on future patrols.

The methodology for conducting this research was an twelve step process. First, research was conducted to determine how Ships Parts Control Center (SPCC) calculates the range and depth of HM&E allowances for Tridents. The recalculated supply effectiveness statistics can be used to predict the level of gross supply support for future patrols, depending on which reduced Stock Numbered Sequence List (SNSL) is used.

Second, FY 94 patrol dates were gathered from the West Coast Trident submarine squadron supply officer. This focused the demand data gathering to only those dates that the

submarine was on patrol. Reduction of HM&E allowance levels only affects the submarine while on patrol. During the refit period between patrols, off hull availability of repair parts is provided by Trident Refit Facility.

Third, the patrol dates were forwarded to SPCC who then queried the Navy's master data file and assembled FY 94 patrol demand data for each Trident submarine. SPCC did not have the capability to screen out the Q and SWS item demands from the data.

Fourth, the Naval Supply Systems Command (NAVSUP) funded thesis travel to Trident Refit Facility at Bangor, WA. There were two purposes for this visit. First, it provided the opportunity to look at their official records as to what requisitions were submitted by each Trident. This was done to screen out the Q and SWS patrol requisitions, as well as the preventative maintenance requisitions dropped in anticipation of refit maintenance. Secondly, 25% of the No Hit deck (stock record cards for repair parts that have not experienced a demand in at least the last year) from the 727 Hull was screened to determine which have items HM&E never experienced a demand in the history of the operational life of the command.

Fifth, SPCC provided two stock numbered sequence lists (SNSL). The first SNSL lists allowance levels for the five hulls (728-733) that have not gone through an overhaul. It is based primarily on the Best Replacement Factor (BRF) concept. The second SNSL is currently active for the two West Coast Tridents (726,727) that have gone through an overhaul. This SNSL reduced the HM&E line item allowance levels by 21.3%. This SNSL combines the BRF concept with the latest shipboard inventory management concept, the Application Replacement Factor

(ARF). The BRF and ARF concepts will be discussed in detail later. Both of these documents list all the HM&E spares, repair parts and consumable items authorized to be carried as inventory.

Sixth, both SNSL's allowances were reduced by 5%, 10%, 15% and 20%. The new simulated allowances were rounded up to the nearest integer.

Seventh, the actual FY 94 patrol demand data for the seven Tridents was first compared to their applicable, i.e., pre- or post-overhaul, to determine the supply effectiveness baseline for each hull for each patrol. The same demand data was then compared to each of the four reduced SNSL's, i.e., 5%, 10%, 15% and 20%, to assess how many additional Not-In-Stock (NIS) demand each submarine would have taken on their respective patrols. Post SNSL reductions supply effectiveness figures were calculated and summarized for each patrol by hull.

Eighth, the additional NIS demands for each patrol were researched to determine what effect they had on the submarine's ability to perform its mission. Trident Refit Facility, Bangor was given the requisition numbers and the stock number of all the NIS demands. They provided the applicable Allowance Parts List (APL) numbers. The APL's were looked up in microfiche to determine the Item Military Essentiallity Codes of the NIS items. SPCC queried the WSF to determine what equipment/component MEC applied to each requisition. Items with equipment/component MEC's of 116 and 110 are considered critical towards mission accomplishment. These parts were summarized by system.

Ninth, the Federal Catalog (FEDLOG) was used to determine how much OM&N funds would be saved by reducing the inventory levels by 5%, 10%, 15% and 20%.

Tenth, conclusions were made from the analysis.

Eleventh, recommendations and further areas of research were discussed.

E. LIMITATIONS

A limitation of this research is that even though all surface ships and submarines stock HM&E inventories, direct correlation of this submarine research to surface ships is hindered. This is due to the different inventory management stocking objectives between the surface and submarine communities. The surface community's supply effectiveness goal is 65% whereas the submarine's is 95%. The difference is due in part to the submarine's lack of opportunity to resupply once on patrol and partly because of the submerged vulnerability of submarines to failures in systems and equipment. Additionally, the lessons learned from this HM&E research are not directly applicable to the other two categories of inventories aboard the trident, i.e., SWS and Q. Each of these inventories have their own inventory stocking objectives.

A second limitation of the study is the difficulty of reducing the allowance levels by 5%, 10%, 15% and 20%. Allowance levels have to be in whole units. There can not be an allowance of 7.5 repair parts. The limitation comes in the reduction of the SNSL's. Whenever a reduction caused the allowance to be other than a whole integer, the allowance was rounded up. An original allowance quantity of 6 can only be reduced by 20%, to give a new allowance of 5. With an original allowance of 6, the 5%, 10% and 15% inventory reductions are not applicable. In order for all four inventory reduction to apply, there must be at least 20 originally allowed. Since

only 6% of HM&E OBRP's have allowances greater than 20, the percentage of inventory affected by this research is dramatically reduced.

The third limitation of this research is the relatively narrow experience on the part of the researcher in the inventory management arena. It is one thing to manage inventory from a stock control position as a supply officer afloat. It is quite another to clearly understand all the idiosyncrasies about how inventory management decisions are made throughout the Naval supply system. Inventory management procedures clarification was provided by numerous sources/commands, i.e., SPCC, NAVSUP, Strategic Projects Program, Naval Sea Systems Command, Trident Refit Facility and Polaris Material Office, Pacific, in an effort to broaden the author's inventory management knowledge base and provide continuity throughout this research.

F. ASSUMPTION

An assumption of this research is that the FY 94 patrol HM&E demand data collected is an accurate representation of the actual repair part demands incurred during those patrols. The data collected is considered representative for two reasons. First, patrol dates were used to ensure refit demands were not included in the research. Second, each requistion was screened to elliminate requisitions submitted in anticipation of work to be accomplished during refit. The validity of the research rests on capturing only demand data during patrol. Refit demand data is of no concern as this research is focused solely on inventory reductions that effect the ability of the submarine to perform its underway mission. With the demand data collected being

representative of the actual patrol demand data, the analysis and conclusions can be applied to Trident submarine patrols in general.

II. BACKGROUND

The purpose of this chapter is to present background information on how the retail-consumer inventory system aboard Tridents works. This framework will serve as a foundation for the reader to better understand the analysis, conclusions and recommendation sections of the thesis.

The Navy supply system is mandated to do more than just provide items of supply. Its primary purpose is to keep the fleet weapons systems operational. NAVSUP has overall inventory management responsibility of all parts in the principal end items. This responsibility lasts from the Navy support date (the date the contractor turns over inventory control to the Navy) until the final disposal of the last item when the weapons system is decommissioned.

SPCC has many tasks associated with the management of inventory items aboard Trident submarines. One of those responsibilities is the supply support function of requirements determination. SPCC uses contractor-provided Provisioning Technical Documents (PTDs) to build Allowance Parts Lists (APLs) to ensure repair part stock is in the system when required by afloat units. Figure 2-1 gives an overview of the organization of the supply system.

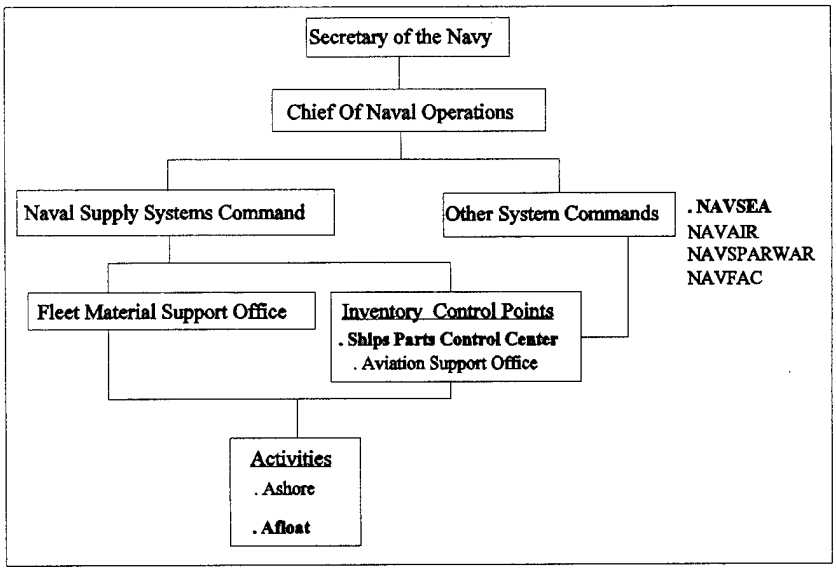

Figure 2-1 The Navy Organization For Supply

Supply management is the segment of military logistics through which direction and control of all phases of supply operations are exercised. There are twelve elements of supply operations (Appendix A). The focus of our research is on the element of supply operations called requirements determination, i.e., determining when and how much of each spare part to procure. This research is further tailored to secondary end items in the Hull, Mechanical and Electrical (HM&E) Coordinated Shipboard Allowance List (COSAL). The HM&E COSAL lists the secondary end items the supply officer is authorized to carry as OBRP's. It is designed to provide an endurance level of support of 90 days.

A. DEFINITIONS

In order to fully understand this research, it is important to grasp the key phrases and terminology associated with afloat supply operations. The following definitions are provided [Ref .1].

Consumable Item - material which, after issue from stock to the final user, is consumed in use and is not repaired when unfit for further service.

Repairable Item - an item of supply that can be economically repaired after it breaks, e.g., gear boxes and circuit boards.

Operating Space Item - an item required in shipboard operating spaces. It is managed by the cognizant department head vice the supply officer.

Ready Service Spare Item - repair parts and spares, designated by the Hardware Systems Command, i.e., NAVSEA, to be stored in or near certain equipment for troubleshooting and to facilitate rapid equipment/system repairs.

End Item - a final combination of end products, component parts, and/or materials which is ready for its intended use.

Principal Item - an end item whose requirements are planned by the cognizant Hardware Systems Command (HSC) and whose disposal is based soley on major destruction, intended destructive use or planned retirement. Examples include: sonar, reactor and missile systems.

Secondary Item - an end item not classified as a principle item, whose requirements are determined by the cognizant inventory control point (ICP). Disposal

decisions are based primarily on normal in-service wear-out or consumption. Examples include gaskets, nuts, bolts and paper products. Secondary items include the majority of consumables, repair parts and repairables. This study focuses on secondary end items.

Insurance Item - an essential item for which no failure is predicted through normal usage, but if a failure is experienced or loss occurs through accident, abnormal equipment or systems failure, lack of replacement would seriously hamper the operational capability of the weapon platform.

Carried Item - item that is stocked on board.

Not In Stock (NIS) Item - an item not stocked on board at the time the demand occurs.

Not Carried (NC) Item - an item that is not carried, i.e., the supply department does not maintain a stock record for this item.

Demand - a request for a not carried item which will be procured, or an isssue of a stock item.

Average Endurance Level - the quantity of material normally required to be on hand to sustain operations for a stated period without augmentation. The current Average Endurance Level for Tridents is 90 days.

Technical Override (TOR) - used to ensure that a minimum quantity of an item is stocked aboard ship and to record the reason for that quantity. Reasons are usually for the accomplishment of planned maintenance, or for the safety of the operator. TOR's can also be used to preclude the stockage of an item aboard the ship regardless of the

allowance computation, due to size or cost considerations. This research only considers TOR's that insure a minimum stockage level.

Peacetime Operating Stock - an item which experiences a demand frequency of 2 or more in 6 months and continues to have at least 1 demand every 6 months thereafter.

B. CATEGORIES OF INVENTORY

Inventories are maintained to support two functions: to support peacetime operations and provide an adequate supply of war reserve material. The focus of our research is on the peacetime inventory function. There are three broad categories of peacetime inventory within the Naval Supply System [Ref. 4]. They are:

Wholesale - an inventory of which the designated inventory manager has asset visibility at the national level and exercises unrestricted asset control to meet worldwide inventory management responsibilities.

Retail Intermediate - the part of the retail inventory, that is required between the consumer and the wholesale levels of inventory for support of a defined geographic area or for the tailored support of specific consumer organizations or activities. Trident Refit Facility, Bangor, Wa., maintains the retail intermediate inventory in support of the west coast Trident program.

Retail Consumer - an inventory, usually of limited range and depth held only by the final customer in an established supply distribution system for the sole purpose of internal consumption or use.

Since this research focuses on Trident HM&E inventory allowances, only the retail consumer category of inventory is germane. Figure 2-2 shows the entire retail provisioning organization chart for the Navy.

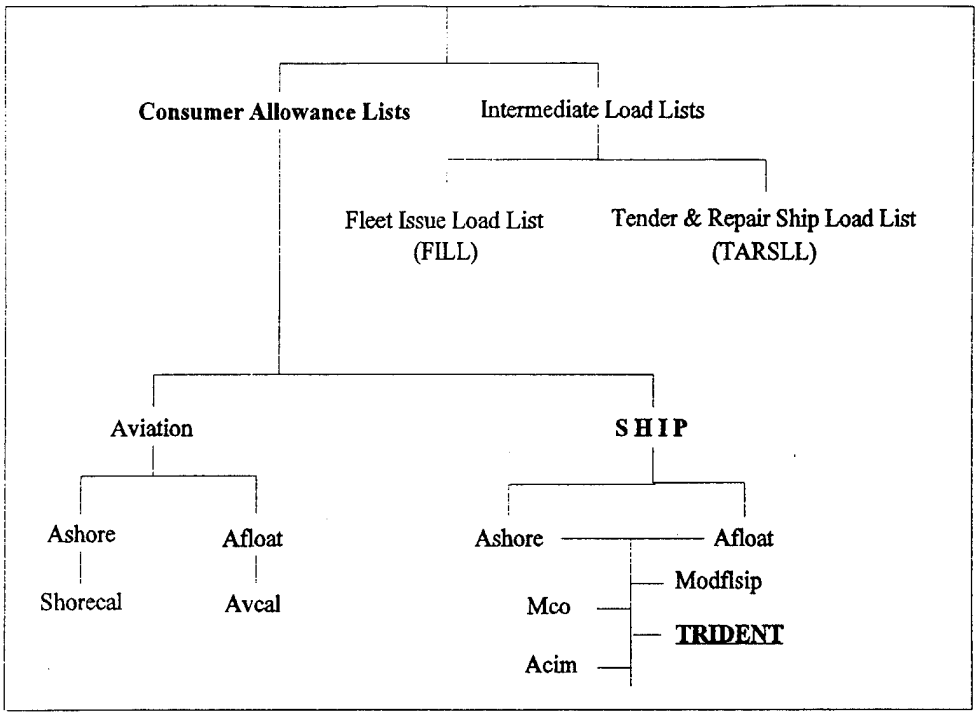

Figure 2-2 Retail Provisioning Organization Chart

C. INTERIM SUPPORT/INITIAL PROVISIONING

When a major weapons system like a Trident submarine is aqcuired, supply support considerations start early in the process. Most HM&E equipments are contractor furnished. The contractor is required to buy the initial OBRP's based on the SPCC annotated Provisioning Technical Documentation (PTD). These contractor furnished items represent the Interim Support of repair parts prior to the Navy assuming inventory

management responsibilities. The contractor provides the Program Support Inventory Control Point (PSICP) at SPCC the Provisioning Technical Documentation.

SPCC uses the PTD to conduct the initial provisioning process. Provisioning is the method of determining and acquiring the range and depth of support items necessary to operate and maintain an end item of material for an initial period of service. The goal of the provisioning process is to assure the timely availability of the material needed to sustain the operation of end items until the normal replenishment pipelines are ready and to provide the support at the least initial cost. Provisioning is the supply system's first exposure to a new weapons system. Included in the PTD are Technical Replacement Factors (TRF's). These are provided by the contractor and relate to their estimate of the reliability of each end item. The TRF's play a critical in the initial allowance quantities that are stocked onboard the submarine.

Navy policy requires that the PTD be acquired for all equipment and weapons systems which will be supported by the supply system [Ref. 4]. The primary data required to determine initial requirements is contained in a Provisioning Parts List (PPL). The PPL documents all support items which can be disassembled, reassembled or replaced and which, when combined, constitute the secondary end item. It contains all items essential to the operation and maintenance of the end item. Appendix B is a partial list of the data elements required for each secondary item on the PPL.

The following data elements of the PPL are critical to the requirements determination process and warrant further explanation.

Source Maintenance and Recoverablility (SM&R) Code:

SM&R codes identify the manner of acquiring support items for the maintenance, repair or overhaul of end items; indicate the maintenance levels authorized for performing the required maintenance functions; and prescribe the disposition action for unserviceable support items. The initial assignment of SM&R codes is provided in the maintenance plan and during provisioning to permit the procurement of the range of spares and repair parts to support new weapon systems and equipment. Though the SM&R code has five digits, the third character is the most critical for stocking objective considerations. The third character represents the lowest maintenance level authorized to remove, replace and use the item. If this character is not a 1, 2 or 3, the removal and replacement of the item is not authorized for personnel at the Trident organizational level and the end item will not be stocked.

Failure Factor 1:

During reliability tests and predictions of secondary end items, failure rates are calculated, i.e., TRF. For all repair parts and repairables managed by SPCC, the failure rate is converted to an annual demand rate known as the Best Replacement Factor (BRF). The BRF is based on Navy-wide (not just Trident submarines) actual HM&E demand data.

The newest Trident allowance model (for post overhaul hulls) uses the BRF in conjunction with the Application Replacement Factor to determine On-Board Repair Part

(OBRP) allowance levels. The model is presented in detail in Chapter III, section D, Inventory Models.

Failure Factor 2:

The minimum replacement unit relates to the minimum number of units required to perform planned or corrective maintenance tasks. The inventory stocking policy is to stock items in increments of the minimum replacement unit.

Essentiality Codes:

Essentiality coding is an important aspect of this research. Once the actual HM&E demand is compared against the decreased SNSL, an exception listing is generated. This listing includes all those parts that experienced demand during patrol that could not be issued from stock, because the reduced allowance levels caused the item to be NIS. Just because an item is NIS does not necessarily present a problem for the submarine. The essentiality coding helps to put into perspective how important the part is.

There are two levels of essentiality coding used in the Trident community. The first level is called the Part Military Essentiality Code (PMEC). It signifies how important the part (secondary item) is to the applicable equipment or component. If the part MEC on the PTD = 1 (Vital), the Trident PMEC equals the Trident equipment/component MEC. If the part MEC on the PTD = 3 (Non-Vital), the Trident PMEC = 95 [Ref. 4].

The second level of essentiality coding is the equipment/component MEC. It determines the importance of the equipment/component to the system and mission of the submarine. It takes into consideration the potential alternatives and redundancies that

exist that would reduce the impact of the failure of this equipment/component. Figures 2-3 through 2-5 describe how the equipment/component MEC is determined [Ref. 5].

EQUIPMENT : Equipment Couplet = XY = _____

Identification _____ **Application** _____ **Number Installed** _____			
Section 1 **Mission Effect (X)** **(IF ALL FAIL)**	**Total Degradation**	**X = 2**	_____
	Partial Degradation	**X = 1**	_____
	Negligable Degradation	**X = 0**	_____
Section 2 **Alternatives/Redundancies (Y)** **(IF ONE FAILS)**	**No Alternatives / Redundancies**	**Y = 2**	_____
	Reduced Effectiveness	**Y = 1**	_____
	Equivalent Effectiveness	**Y = 0**	_____

Figure 2 - 3 Allowance Determination Equipment Couplet

The first step in the equipment/component MEC determination is based on the effect to the Trident submarine mission and the simultaneous failure of all installed units of that particular equipment. The three possibilities are total, partial or neglibable degradation. Section 2 compares the effectiveness of the alternatives and redundancies to the equipment. The couplet is established by combining the numbers of Sections 1 and 2, i.e., Partial Degradation (1) plus No Alternatives/Redundancies (2) becomes couplet 12. This XY couplet is entered in the equipment line of Figure 2-5.

COMPONENTS : Component Couplet = ST = _____

Identification _____			
Application _____			
Number Installed _____			
Section 1	**Total Degradation**	**S = 2**	_____
Equipment Effect (S)	**Partial Degradation**	**S = 1**	_____
(IF ALL FAIL)	**Negligable Degradation**	**S = 0**	_____
Section 2	**No Alternatives / Redundancies**	**T = 2**	_____
Alternatives/Redundancies (T)	**Reduced Effectiveness**	**T = 1**	_____
(IF ONE FAILS)	**Equivalent Effectiveness**	**T = 0**	_____

Figure 2 - 4 Allowance Determination Component Couplet

After determining the couplet for the equipment, the component couplet is determined in much the same way. Section 1 pertains to the effect on the equipment of the simultaneous failure of all installed units of a particular component. Section 2 asks what effect the failure of one unit of this component will have on the equipment in light of possible alternatives and redundancies. The ST couplet is established by combining the numbers of Sections 1 and 2. This couplet is entered into the equipment/component line of Figure 2-5.

Equipment Couplet XY = _____

00	01	02	10	11	12	20	21	22	
95	**95**	**95**	**98**	**101**	**104**	**107**	**110**	**116**	22
			95	**98**	**101**	**104**	**107**	**110**	21
				95	**98**	**101**	**104**	**107**	20
					95	**98**	**101**	**104**	12
						95	**98**	**101**	11
							95	**98**	10
								95	02
								95	01
								95	00

Component couplet

ST = _____

Trident Equipment / Component MEC = _____

Figure 2-5 Trident Equipment/Component (MEC) Determination Table

The matrix in Figure 2-5 is used for the actual equipment/component MEC determination. The top row represents the equipment couplet calculated using Figure 2-3. The right column represents the component couplet calculated using Figure 2-4. The point where the two couplets intersect determines the equipment/component MEC. A complete listing of all Trident equipment/component MEC's and their respective meanings are provided in Appendix C.

D. INVENTORY MODELS

Management of the Navy's inventory supply system is a monumental task. To support the Navy's mission, the supply role consumes 50% to 60 % of the total Navy budget. In 1990, the Navy directly managed 740,000 line items of material valued at over $35 billion [Ref. 6]. The HM&E post-overhaul SNSL consists of 15,120 line items and is

valued at over 7.9 million dollars. Navy inventory management is further complicated by the wide variety of unique stocking objectives that exist between different activities. Mathematical inventory models are used to facilitate the decisions made by inventory managers, while balancing costs with readiness goals. The objective is to determine the type of individual secondary end items to carry (range) and how many of each should be stocked (depth). Inventory managers at SPCC use mathematical models to evaluate these two key parameters.

The inventory model used aboard Trident submarines is referred to as the Trident model [Ref. 5]. Figure 2-6 shows the allowance determination process for the Trident's HM&E COSAL.

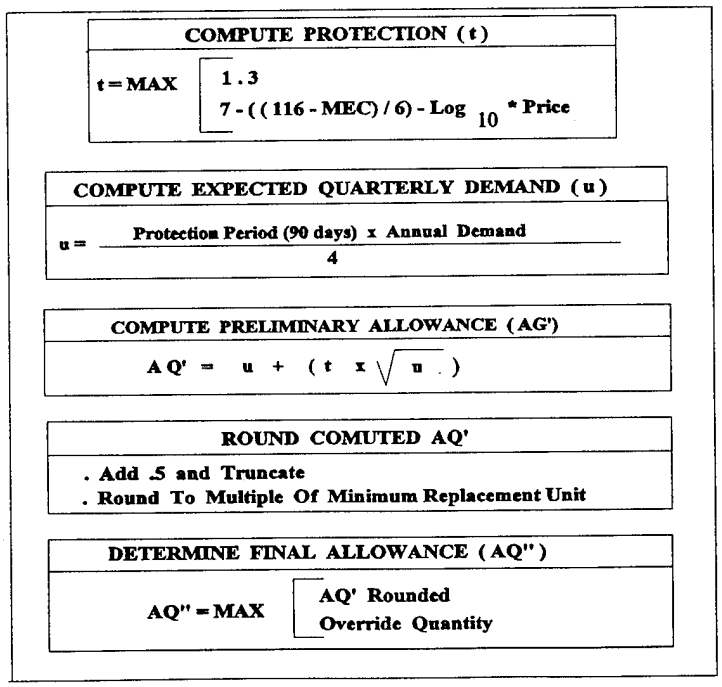

Figure 2-6 Trident HM&E Allowance Determination

The first step is to compute the protection value (t). The protection level serves the same purpose as safety stock. It provides an additional level of protection against variability in demand for the item. The Trident model constrains the protection value to be at least 1.3. Protection varies depending upon which part Mission Essentiality Code is used and how much the item costs.

The second step in allowance determination is to compute the expected quarterly demand. This is done by multiplying the 90 day protection period times the expected annual demand and dividing the product by 4. Expected annual demand is calculated by multiplying the Number of Equipment/Components installed on the submarine times the quantity of the part in the Equipment/Component times the Failure Factor (BRF).

The preliminary allowance quantity (AQ') is determined by multiplying the protection level (t), by the square root of the average expected quarterly demand (u). This product is then added to the expected quarterly demand.

The preliminary allowance (AQ') is rounded by adding .5 and then truncating. The model then checks to see what the multiple replacement unit is and rounds to that multiple.

The final allowance determination (AQ") is computed by taking the maximum of the rounded preliminary allowance and the override quantity (if applicable). Inventory managers can apply a technical override allowance to any item that meets certain criteria, i.e., the item is essential for personnel safety or the item is required for planned maintenance.

For an end item to be a candidate for the Trident model, it must meet the following general parameters [Ref. 4].

- Each potential candidate is limited to shipboard installable items only.
- The level of endurance support is 90 days.
- The objective function is to maximize essentiality weighted unit effectiveness.
- The protection level varies with the essentiality of the item and its cost.
- A normal approximation of the Poisson distribution for the safety level can be used.
- Preliminary allowance quantities are increased by 0.5 prior to rounding to determine the insurance range.
- All MEC 116 items (those vital for mission readiness) are stocked in at least one multiple replacement unit.

After the initial provisioning process is complete, the Navy takes over inventory management responsibilities on the Material Support Date. As mentioned previously, the Trident submarine community is currently using two different SNSL's to quantify the authorized allowances for OBRP's. If a west coast Trident has not gone through an overhaul, it uses the SNSL whose allowances are calculated based on the BRF. The BRF is based on inputs received from the contractor who built the submarine. The contractor provided the inventory manager a Technical Replacement Factor (TRF) for each item. Once the Navy owns the logistic support for the submarine and it becomes operational, actual Navy-wide HM&E demand takes over to recompute the allowances based on the

BRF. The BRF oriented SNSL applies to the hulls numbered 728-733. Currently, only the OHIO (SSBN 726) and the MICHIGAN (SSBN 727) have undergone overhauls. Their respective SNSL's are based on a combination of the BRF and the Application Replacement Factor (ARF).

What the Trident HM&E inventory managers found out over time, was that the BRF (based on Navy-wide demand data) was slowly bringing the allowance quantities down. If the inventory managers could isolate their demand data collection to only Trident demand, it was predicted that the required allowances to stock could be driven down even further without hurting readiness. The concept of ARF was adopted to reduce the allowance levels of OBRP's based upon class-wide vice Navy-wide failure rates. The key factors that make it possible to utilize class-wide failure rates for OBRP computation are [Ref. 7]:

- The unique Trident maintenance concept
- The stringent configuration control
- The large degree of hull-to-hull equipment continuity
- An established data base of end use demand
- Historical repair part applicability documentation

In order to qualify for the ARF consideration the following parameters need to be met.

- Only items SM&R coded for the Organizational level maintenance were selected as candidates.

- Items must have Trident application for 3 years or more

- 0 Cog (Interim Supply Support) NIIN's were excluded.

The flow diagram in Figure 2-7 illustrates how secondary items are considered for ARF calculation [Ref. 7].

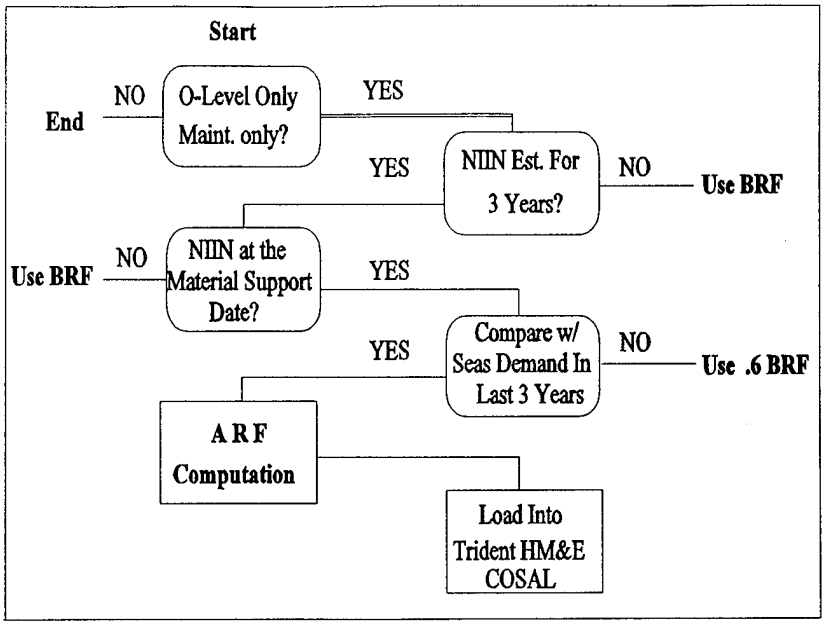

Figure 2-7 Application Replacement Factor (ARF) Methodology

The first step in the ARF methodology is to screen the secondary item to determine if it can be removed and replaced at the organizational level. If the third digit of the items' SM&R code identifies it as either an intermediate or depot level maintenance item, the item does not qualify for ARF computation.

Once the item passes the O-level test, how long the Navy Item Identification Number (NIIN) has been active is asked. If the NIIN has not been in existance for at least 3 years, the Best Replacement Factor (BRF) is used to compute the on board allowance of the item.

If the NIIN has been established for 3 years or more, is it being managed by the Navy as of the material support date? If not, the BRF calculation is used. If yes, was there any demand for the item in the last 3 years? If not, the onboard allowance calculation is the BRF times 0.6.

If the item has experienced 1 or more demands in the last 3 years the ARF computation is conducted. The formula is based on weighting three years of the item's actual demand per Trident population plus the anticipated failure of the item. The formula for ARF computation is:

$$\mathbf{ARF} = \left(\frac{\textbf{3 Years Trident Demand}}{\textbf{3 Years Trident Population}} \times (.6) \right) + \textbf{Fleet BRF} \times (.4)$$

The item's calculated ARF allowance is loaded into the Trident HM&E COSAL and applied to the West Coast post-overhaul Tridents. Currently all the East Coast Ohio class submarines use the ARF concept.

SPCC conducted a test of the ARF computations on the 734 hull's HM&E COSAL. Based on the parameters for ARF qualification, 485 NIIN's were added to the SNSL and 1179 NIIN's were deleted from the SNSL. The net value saved to the OM&N appropriation was $1.1 million [Ref. 4].

E. REASONS FOR INVENTORY

Inventory of OBRP's is essential to sustain a submarine operationally at sea so that it can succuessfully complete its deterrent patrol. The requirement for and existence of inventories can be explained by five functional factors: Time, Decoupling, Uncertainty, Economy and Readiness [Ref. 8].

Time Factor: The time factor involves the long process of production and distribution required before goods reach the final customer. Keeping inventories enables the supply department aboard ship to reduce the lead time in meeting demand.

Decoupling Factor: Inventories free one stage in the supply-production-distribution process from the next, permitting each to operate more economically. The decoupling function permits the Navy supply system to schedule many operations at a more desirable performance level than if they were integrated dependently.

Uncertainty Factor: This factor concerns unforeseen events that modify the original plans of the organization. When inventory is available, the organization has some protection from unanticipated or unplanned occurrences.

Economy Factor: This permits the supply system to take advantage of cost reducing alternatives. Items can be purchased or produced in economic quantities. Bulk purchases with quantity discounts can reduce procurement cost significantly.

Readiness Factor: The primary purpose for managing inventories is to provide supply support to the afloat units of the fleet. The key element of this goal is the attainment of a high level of operational readiness in all equipment necessary for a ship's

mission. The supply support provided by these inventories has been shown to be a key contributor to the operational readiness of the Naval Forces [Ref. 9]. Efficient and cost effective inventory management thus directly affects the ability of Naval combat forces to successfully do their missions. The point to be made here is that, at times, the Navy's goal of maximizing operational readiness may be at odds with the traditional inventory management goals of minimizing costs. The costs to the country if one of its Fleet Ballistic Missile submarines is not ready to perform its primary mission, i.e., the launching of tactical weapons, are difficult to measure. Strategic deterrence has as its strength, the ability to convince adversaries that the U.S. has submarines on patrol carrying weapons of mass destruction, which can be delivered to any place on the globe with pin point accuracy. If a Trident was given an order to launch and failed to do so, the cost could be the delayed launch of the weapon or possibly the loss of effective strategic deterrence. Both outcomes could endanger the safety and the welfare of the American people.

F. INVENTORY PROBLEMS

We now understand the valid reasons for ships to take repair part inventories to sea. The next logical question is, How much is enough? An obvious downside of not having enough inventory would be the inability of the ship to make at sea repairs due to either not carrying the part or not having adequate quantities of the part to fulfill either

planned or corrective maintenance actions. Both situations would negatively impact the supply support measure of effectiveness known as Gross Effectiveness. It is calculated as:

Gross Effectiveness = Total Demands Filled / Total Demands

The patrol gross effectiveness goal is currently set at 95%. The percentage simply means that 95% of all the demands for OBRP's will be filled from stock. The FY 93/94 gross effectiveness results for both Coasts Trident Squadrons, i.e., CSS-17 and CSS-20, are displayed in Table 2-1.

	CSS-17			CSS-20		
		Ave			**Ave**	
FY 93		96.86	25 Patrols		98.04	15 Patrols
FY 94						
	727	96.4		734	96.4	
	728	95.4		735	98.7	
	729	96.85		736	98.15	
	730	96.15		737	98.3	
	731	97.15		738	95.2	
	732	98.45				
	733	94.8				
		96.5	13 Patrols		**97.3**	12 Patrols

Table 2-1 FY 93/94 Gross Effectiveness
(INFORMATION PROVIDED BY SPCC CODE 8424)

Tridents currently carry enough OBRP's to meet gross effectiveness goals. The primary question this research is asking is, Can the level of OBRP's be reduced and still maintain acceptable gross effectiveness?

Carrying excess inventory has mulitple side effects. Increased levels of inventory provide improved supply support to the command. By adding new allowance items or increasing the existing depth of items, gross effectiveness percentages would likely rise.

However, not all the effects of excess inventory are positive. There are inventory management problems associated with carrying too much inventory, i.e., procurement costs, cost of lost parts, space constraints, inefficiency, and career concerns.

1. The most obvious downside to carrying excess inventory is the additional costs associated with procurement of those parts. Increasing the HM&E level of supply parts on one Trident by as little as 5% would cost the government an additional $58,900 in procurement costs per inventory cycle. Multiplying this figure by the 14 existing Tridents equates to $824,600 per inventory cycle. The costs that are not so readily seen relate to the manhours of additional management of those parts, i.e., administrative procurement, material receipt processing, stock record posting, physical stowage and inventories.

2. The result of mislocated parts due to overcrowding is the additional procurement and administrative costs to the government when parts cannot be found. The part might very well be in the correct bin, or have accidentally slipped into an adjacent bin. If the bin is so crowded that accurately counting all the parts in the bin is hindered, additional work and expense takes place needlessly. For example, if the part is in the locker, but cannot be located, the part will be expended off the supply officer's records and a new part will be ordered up to allowance. Depending on the part's dollar value, additional expenditure documents, i.e., DD Form 200 and Missing, Lost, Stolen and

Recovered Report, would be required to remove the item from the supply officer's accountability. This starts a long administrative process, which impacts numerous commands off the ship. There is quite a cost to the government for everyone's time and effort to expend the item from inventory. If the item happens to be a depot level repairable (DLR), the cost to the government to restock the item back into inventory is considerably more expensive than if the carcass had been turned in for repair.

3. The impact of excess parts on existing space constraints is a valid concern. Submarine design takes into consideration how to efficiently arrange systems, equipments, lockers, etc. to maximize the effectiveness of the ship as a whole. There are over 30 stowage lockers aboard Trident submarines for warehousing the 19,000 HM&E repair parts. Each locker has 7 drawers with between 1 to 12 individual bins inside. With a fixed locker allotment, too much inventory will push the lockers pass the ability to manage them at optimal efficiency. When lockers reach near capacity, it is easy for parts to get mislocated within a drawer or within a locker. When parts are not in their correct location, supply support efficiency decreases. For example, the ship's storekeeper goes to a particular bin to draw a part from stock. When the part cannot be found, he then physically checks every in all adjacent other bins in that drawer to see if the part was mislocated to a surrounding bin. Too much inventory can cause individual bins to be stuffed with parts. As the drawer is slid open, a part can accidentally be pushed from one bin to another or slip down the back of the drawer and locate in the drawer below. The

storekeeper has no idea the part is stowed in the wrong location, until it comes time to issue that part.

4. On a day-to-day basis aboard ship, overcrowding of lockers results in increased inefficiency on the part of storekeepers to stow and issue repair parts. When there are 40 different parts in a storage bin as opposed to 15, it takes longer to sort through the bin to locate the part in question. During each refit period, prior to the boat heading back to sea, new HM&E cosal work packages are processed. A typical work package consists of 70 range deletes, 40 depth downs, 50 range adds and 60 depth increases. Accessing the overcrowded lockers to stow and retrieve these parts hinders the efficiency and accuracy of the process.

5. The mislocation of parts due to overcrowding of bins has further implications for inventory managers aboard ship. Supply Officers are held accountable for the proper care and stowage of OBRP's entrusted to them. Inventory validity is a measure of effectiveness for how well afloat supply departments manage their material resources. The post-overhaul HM&E inventory alone on a Trident has 15,120 line items. Supply officers are inspected every other patrol by Commander, Submarine Group Nine to determine their ability to properly manage repair part inventories. Inventory validity is calculated based on having both the correct item in the correct bin as well as having the correct quantity.

The acceptable standards for inventory validity during these inspections are provided in Table 2-2.

Outstanding	98.5 - 100
Excellent	96 - 98.5
Good	93 - 95.9
Marginal	90 - 92.9
Fail	< 90

Table 2 - 2 Storeroom Inventory Validity Standards
(COMSUBPAC INST 4406.1C)

The supply officer whose inventory validity drops below 90% would fail the inspection. A reinspection would be scheduled. The ability of that supply officer to be competitive for future promotions could be in jeopardy.

III. ANALYSIS METHODOLOGY

Chapter three describes the specific methodology used to collect, collate and analyze data. It starts by refocusing the reader on the specific objectives of this research. It proceeds into where and how the actual demand and allowance data were collected and prepared for analysis. The chapter demonstrates how individual repair parts can be analyzed as to their importance in supporting the ship's mission and their impact on gross effectiveness.

A. OBJECTIVES

The first objective was to determine if reducing the amount of HM&E inventory aboard Trident submarines would significantly affect the ability of the ship on patrol to perform its mission.

The second objective was to determine an acceptable level of HM&E reductions that could be supported and not adversely impact mission readiness.

The third objective was to quantify the dollar value of savings that could be achieved due to the reduction of OBRPs, if inventory reductions do not have a dramatic impact on mission readiness.

B. METHODOLOGY

The entire methodolgy of this research centers around the accurate collection of two types of data, i.e., actual demand and allowance lists. Actual demand data represent underway requests, made by the work center Repair Parts Petty Officers (RPPOs), for the issue of repair parts for

planned or corrective maintenance. The allowance list of concern is the stocked numbered sequence list (SNSL). This lists the quantity of stock numbered items allowed to be carried.

1. HM&E Focus

The first data collected was FY 94 actual patrol demand data. On Tridents, there are three types of demand data that could be collected. It was important to limit the scope of the research to just one demand type. Of the three separate COSALS aboard Tridents, the study was restricted to that of HM&E. The reasons for wanting to limit the scope of research were twofold. First, since patrol demand data for all of FY 94 was to be analyze, the sheer volume of data would have been too extensive to adequately study in the time frame allotted for this project. Second, the mathematical models used to manage the three categories of Trident OBRPs are not the same. It would not be appropriate to analyze three distinctly unique types of inventory and then make general, across the board stocking level recommendations based on that analysis. The third reason for analyzing only HM&E data is that all three categories of COSALs have separate inventory managers. This would have complicated the data collection and analysis beyond the practical level. In addition, the HM&E COSAL was also chosen because it is not unique to the submarine community. All surface ships have HM&E inventory. It was intended that there would be some areas of this research that could be applied to the service community as well.

The FY 94 underway demand data was provided by SPCC. With patrol date information, SPCC queried the Weapon Systems File (WSF) to collect all requisitions submitted by the respective Tridents during those patrols. Appendix D is an example of the FY 94 demand data received from SPCC for the USS Nevada. SPCC did not have the capability of screening the data to only that of HM&E. Once received, the Q and SWS and OSI requisitions had to be manually

screened from the data. This step was accomplished at Trident Refit Facility, Bangor. The OPTAR branch provided a hardcopy printout of all the requisitions processed during FY 94. Appendix E shows one of the over 500 pages of the official OPTAR log used to screen the HM&E demands. Ledgers for each submarine were reviewed to determine what inclusive Julian dates represented patrol demand data. It is important to remember that this study researches the impact of reduced allowance levels while the submarine was underway. Requisitions submitted during refit periods were not applicable and were excluded from the study. The supplementary address block TRF's official OPTAR log was used to screen out the Q, SWS and OSI requisitions. OSI requisitions were excluded from the study for two reasons. They are not included in the calculation for gross effectiveness during patrol and are typically not items that would have any serious impact on the ability of the submarine to perform its mission, i.e., tools, test equipment. The screened hardcopy optar log contained the actual underway HM&E demand data and was used to manually purge the FY 94 requisitions provided from SPCC on disk. The demand data for each submarine was separated by patrol, sorted in NIIN sequence and a printout was generated. Appendix F shows the screened HM&E demand data for the USS Nevada's third patrol of FY 94. At this point, the collection of actual demand data was complete.

2. Stock Numbered Sequence Lists

While communicating with SPCC, it became apparent that the HM&E allowances for Tridents are contained in two separate SNSL's vice one. Six of the first 8 hulls of the Ohio class submarine get their allowances from a SNSL based on the Best Replacement Factor (BRF). The first two Trident submarines have undergone an overhaul and are now using the HM&E SNSL based on a combination of the BRF and the Application Replacement Factor (ARF). The reasons

for both SNSLs were discussed in Chapter II, section D. SPCC provided both SNSLs on disk. Appendix G depicts the information provided in the SNSL.

3. Allowance Reductions

A mainframe SAS program was generated to both extract the pertinent data fields and to make the 5%, 10%, 15% and 20% allowance reductions. Appendix H shows one page of that listing. When the allowance levels were decreased by the various percentages, they were rounded up to the nearest integer. This resolved the impracticality of stocking fractional parts. It also kept the allowance reduction more realistic and consistent in approach. For instance if an allowance of 14 was being reduced by 5%, the mathematical result is 13.3. This number was rounded back up to 14. Another SAS program was generated to determine what percentage of the HM&E allowances are being affected by these reductions. When a 5% allowance level reduction was conducted, 1.5% of all the HM&E OBRPs were affected. The SNSL percentages affected for the 10%, 15% and 20% were 2.9, 4.3 and 6.3 respectively. Appendix H. was loaded into the statistical software package SPSS to calculate the dollar savings that could be achieved at all four reduction levels. Appendix I displays the format of the spreadsheet used to calculate the cost savings across all allowance reductions. Table 3-1 depicts the results of those calculations as the potential cost savings per submarine each inventory cycle in the Operations and Maintenance, Navy appropriation.

HM&E Reduced	OM&N Savings
5 Percent	$ 86,804
10 Percent	$ 220,538
15 Percent	$ 368,029
20 Percent	$ 582,768

Table 3-1 Projected OM&N Cost Savings

4. Not In Stock Demands

The next step in the analysis methodology was to determine, based on the reduced allowance levels, how many additional NIS demands would have occurred. This was accomplished by manually comparing the actual demand data against each of the four reduced SNSL allowance levels. An exception listing was generated for each submarine. A summary of the additional NISs is provided in Appendix J. The summary is organized by patrol, in NIIN sequence. The highlighted allowance numbers under the percent reduced columns represent the level at which the reduced SNSL allowances would have had supply support impact.

5. Gross Effectiveness Impact

Gross effectiveness is a supply support measure of effectiveness which provides information about how well the allowance levels and the supply department supports the submarine. The Trident gross effectiveness goal is 95%. The percentage is calculated by dividing the total number of demands filled during patrol by the total number of demands received. Table 2-2 documented that the current level of OBRPs is sufficient to meet the 95% gross effectiveness standard. There are two types of demands that negatively impact the ability to achieve this TYCOM goal, i.e., NIS and NC. Since there is, by definition, no allowance for NC parts,

reducing the allowance levels will not have any impact on NC requisitions. Reducing the allowances does potentially impact the amount of NIS demands incurred.

The FY 94 gross effectiveness figures discussed previously include Q and SWS demand data. Since this study is centered around only HM&E demand, the gross effectiveness analysis must be limited to that of HM&E. Therefore, a baseline HM&E gross effectiveness needed to be calculated in order to have a standard to compare the impact of additional NIS demands against. This was accomplished by screening the supplementary address column of the FY 94 OPTAR log for labels whose second character was either an "S" for NIS or an "N" for NC. Table 3-2 displays two pieces of information. First it shows the recalculated original HM&E gross effectiveness percentages for the FY 94 patrols. Second it shows the recomputed patrol HM&E gross effectiveness figures based on the additional NIS demands incurred because of the allowance reductions. Each block has the Gross Effectiveness figures listed for each of the two FY 94 patrols being researched.

Submarine	**Orig. G E**	**5% G E**	**10 % G E**	**15 % G E**	**20 % G E**
Michigan	91.8 / 92.8	91 / 92.4	90.2 / 92	89.9 / 91.6	89.9 / 90.8
Florida	96.2 / 95.1	95.5 / 95.1	94.8 / 95.1	94.4 / 93.9	93.7 / 93.9
Georgia	97.2 / 95.8	96.6 / 95.5	95.0 / 94.5	95.0 / 93.9	93.6 / 92.9
HM Jackson	92.8 / 96.9	91.9 / 96.9	91.0 / 96.9	91.0 / 96.4	90.6 / 96.4
Alabama	85.3 / 85.3	85.0 / 84.2	84.2 / 84.2	82.8 / 83.4	81.7 / 83.1
Alaska	94.2 / 96.6	93.5 / 96.6	92.7 / 96.6	92.3 / 96.6	91.9 / 94.3
Nevada	91.9 / 92.2	91.9 / 92.0	91.5 / 90.7	91.1 / 89.9	90.0 / 88.9

Table 3-2 Revised Gross Effectiveness Summary

6. NIS Item Importance

The analysis next looked at the generated exception listing of additional NIS's incurred because of reduced allowances. Every Trident submarine on patrol experiences some level of NIS demands. Just because a secondary end item is NIS and can not be issued to complete a corrective or preventative maintenance action, does not mean it will impact the ability of the submarine to perform its mission. Some parts are more important than other parts depending upon which equipment/component they are supporting. Chapter two discussed the concept of essentiality codes. At this point each of the NIIN's on the exception listing had to be screened in two ways. First, the PMECs, which determine each part's importance to the equipment/component it supports must, be collected. These data are available in the HM&E COSAL. In order to collect the data, the applicable Allowance Parts List (APL) is required. The optar branch at TRF, Bangor researched individually, the requisition numbers for each of the NIIN's on the exception listing. The Trident submarine satellite (SUBSAT) branch of TRF, Bangor provided a complete set of HM&E microfiche for each of the submarines homeported out of Bangor. The APL's were screened to find the applicable PMEC associated with each NIIN on the exception listing. A PMEC of 1 signifies (Vital) and a PMEC of 3 signifies (Non-Vital). The equipment/component MEC, which determines the importance of the equipment/component to the mission of the submarine had to be collected as well. It is accessable via the A02 application of the WSF. SPCC was faxed the APL information. SPCC collected the Equipment/Component MECs. Appendix K is a complete listing of the pertinent essentiality codes for each NIIN and APL generated on the NIS exception listing.

7. Revised SNSL Decreases

The relative importance of the secondary end items for each specific APL was then compared with the reduced allowance levels. If the part was considered critical to support the ability of the submarine to complete its mission, the particular allowance level for that part was not reduced past the point where it become an exception NIS. A final determination was then made as to how much the overall level of allowances could have been reduced during the patrols studied in FY 94 without impacting the mission readiness of the submarine.

8. Further Study

Whenever an intensive research project is undertaken, there is the potential for the research to uncover areas worth future assessment. During the course of this research, additional inventory management issues and questions were raised. The combination of the lack of time, coupled with not being directly within the scope of this study, precluded branching off and exploring those areas. They are however presented in the closing chapter as topics worth consideration for future thesis work.

IV. ANALYSIS RESULTS

A. NOT IN STOCK DEMANDS

If the allowance levels of repair part support are lowered, it is expected that there will be an increase in the number of demands for repair parts that will be NIS. One would also expect the larger allowance reductions to produce greater NIS demands. By simulating the reduction of HM&E inventory by 5%, 10%, 15% and 20%, and comparing the actual FY 94 demand data against those allowances, the number of NISs per patrol increased by 102, a 73% increase in the number of NISs from what was actually experienced on patrol. 102 is the total number of NISs that occurred when the four allowance reduction levels were applied. Appendix J lists the additional NIS demands that would have occurred during the 14 FY 94 patrols studied during this research. The highlighted values in the 5%, 10%, 15% and 20% reduction columns represent the point at which the reductions would have some impact on the submarine.

Additional observations of the data relate to demand request patterns on the part of RPPO's. Requests for repair parts fit into three categories. The quantity requested can either be below the allowance level, at the allowance level or above the allowance level. The latter will automatically result in an NIS demand. Table 4-1 illustrates the percentage of requests by category of the additional NISs resulting from the allowance reductions.

Command	Below Allow.	At Allowance	Above Allow.	Total
Michigan	3	7	3	12
Florida	0	12	14	26
Georgia	3	20	10	33
Jackson	1	5	6	12
Alabama	2	17	7	26
Alaska	2	8	14	24
Nevada	7	15	13	35
Totals	**18**	**84**	**66**	**168**
Percentage	**10.7 %**	**50 %**	**39.3 %**	

Table 4-1 Demand Pattern Summary

Table 4-1 shows a strong trend on the part of RPPO's to make requests for repair parts up to or over allowance. Of the additional NISs generated from this research almost 90% were requested at or above the authorized stockage levels. Why are requests for parts ordered up to or above the allowance levels? Were all the parts actually needed or are RPPOs routinely ordering more than required and keeping the balance for future use? If items are being requested in excess of actual requirements, the impact on the supply system is far reaching. First, the number of NISs occurring on patrol is larger than it should be. This directly affects the supply support measure of effectiveness, i.e., Gross Effectiveness. Since stockage levels are primarily based on demand, requesting more parts than required sends a false signal to the supply system. The supply system will record the increased usage of items and sense a greater demand than actually is required. SPCC will initiate, as part of the COSAL Work Package process, range adds for these items. The net effect is that each Trident will have additional parts pushed to them. There are also additional costs associated with these excess parts, which include: procurement, shipping, administrative and

numerous man-hours expended at SPCC, Trident Refit Facility (COSAL Branch) and each Trident to record the transaction and stow the inventory. The trend of requesting items up to and over allowance is addressed in Chapter V as an area of further research. It is outside the primary scope of this study.

B. GROSS EFFECTIVENESS IMPACT

It is important to understand what impact reducing the level of repair parts has on the Gross Effectiveness figures for the patrols studied. Gross Effectiveness is the supply support measure of effectiveness that is used to evaluate how well the afloat supply department supports the command. Inventory managers have set the Gross Effectiveness goal for Tridents at 95%. If the Gross Effectiveness is dramatically reduced because of the lower level of OBRPs, the ability of the submarine to complete its deterrent patrol could be jeopardized. Appendix J lists every NIIN that was impacted by the allowance reductions. Out of the 4,714 requisitions researched from 14 patrols, only 168 have any impact on the submarine. The impact can take one of two forms. The first type (Gross Effectiveness Reduced) is where the reduced allowance level caused an additional NIS to occur. The second type (Less Issued) is where the demand for the items was already an NIS demand, but by decreasing the allowance level the RPPO received fewer than he would have prior to the allowance reductions. Table 4-2 summarizes the two types of impacts incurred by reducing the allowance levels by 5%, 10%, 15% and 20%.

Command	GE Reduced	Less Issued
Michigan	10	2
Georgia	23	10
Alabama	20	6
Nevada	22	13
Florida	12	14
Jackson	6	6
Alaska	10	14
Cumulative	**102**	**66**
Percentage	**2.2%**	**1.4%**

Table 4-2 Types of NIS Impact

From a Gross Effectiveness perspective, if the quantity demanded during patrol was greater than the allowance level, the four inventory reduction percentages have no impact. In these demands, the patrol Gross Effectiveness figure already reflects the inability to meet the demand. The submarine can be impacted even if Gross Effectiveness is not. RPPOs which did not receive all the repair parts requested, potentially could not complete their maintenance actions because some of the demands that were flagged as NIS exceptions were requested for habitability reasons, e.g., fluorescent and incandescent lamps. These items have no impact on the ability of the submarine to complete its assigned mission.

The 102 HM&E demands that did impact Gross Effectiveness can be further sub-divided by the level of allowance reduction. Table 4-3 displays the number and percentage of NISs based on the inventory reduction level.

Reductions	5%	10%	15%	20%
Number NISs	16	28	24	34
NIS Increase	12 %	32 %	49 %	73 %

Table 4-3 NISs Per Reduction Level

This table shows that if the allowance level of HM&E inventory was reduced by 15% during FY 94, over the course of the 14 patrols studied there would have been 24 additional NIS demands. This represents a 49% increase in the number of NISs. The table also confirms the prior prediction that as the allowance levels sustain further reductions, the number of expected NISs will increase. The percentage of NIS increases for the 5%, 10%, 15% and 20% allowance reductions are 12%, 32%, 49% and 73%, respectively.

The next step in the analysis is to determine what impact the additional NISs have on Gross Effectiveness. The impact on Gross Effectiveness gets complicated at this point. The actual Gross Effectiveness resulting from each Trident's patrol is computed based on every demand the supply department receives. This includes Q and SWS demands, the other two categories of COSAL supported parts on board. In order to analyze the impact of these reduction on Gross Effectiveness, a baseline HM&E Gross Effectiveness figure must be calculated. Appendix L summarizes the percent change in Gross Effectiveness at each level of HM&E inventory reduction as compared to the baseline HM&E Gross Effectiveness figure. Appendix L shows that the net Gross Effectiveness percentage decrease in each of the four inventory level reductions is 5% (-.5%), 10% (-1.2%), 15% (-1.7%) and 20% (-2.5%). The percentages in the parathises represent the amount HM&E Gross Effectiveness would decrease relative to the baseline. For example, a 5 % HM&E inventory reduction would cause the HM&E baseline Gross Effectiveness figure to decrease by 0.5%.

These baseline reductions in HM&E Gross Effectiveness would have impacted the overall Gross Effectiveness of the Tridents, but to a lesser extent. The data collected in this research focuses solely on HM&E demands. Converting these baseline reductions directly to overall reductions in Gross Effectiveness is not possible. It is possible however to determine that the additional NIS demands will have less of an effect on the overall Gross Effectiveness than Appendix L shows for HM&E.

A fictitious example will help to clarify. During a Trident patrol, there were a total of 450 demands, i.e., 300 HM&E, 100 Q and 50 SWS. The number of NISs by COSAL type were 8 HM&E, 5 Q and 2 SWS. The overall Gross Effectiveness for this patrol would be 96.66%. Using the expected NIS increase percentages for each level of allowance reduction from Table 4-4, the additional HM&E NISs can be calculated. Table 4-4 displays the impact on the patrol's overall Gross Effectiveness based on the analysis of the researched data.

% Reduct.	HM&E NIS	Q/SWS NIS	Total NISs	Gross Eff.	% Change
0	8	7	15	96.7%	
5	9	7	16	96.4%	**-.2**
10	11	7	18	96.0%	**-.7**
15	12	7	19	95.8%	**-.9**
20	14	7	21	95.3%	**-1.4**

Table 4-4 Impact on Overall Gross Effectiveness

The actual impact on the overall Gross Effectiveness for the patrol based on the above example is significantly less than the impact of the HM&E baseline Gross Effectiveness. The impact the 5%, 10%, 15% and 20% reductions had on the overall Gross Effectiveness was less than 55% of the impact they had on the baseline HM&E reductions reported in Appendix L.

What it would be for the actual Gross Effectiveness for the 14 patrols studied would only be conjecture. The exact impact could not be accurately determined from the data collected in this research.

C. IMPORTANCE OF NIS ITEMS

Combining the analysis thus far with the importance of each of these additional NISs will answer the first objective of this research . The first objective is to determine if reducing the amount of HM&E inventory aboard Trident submarines would significantly affect the ability of the ship to perform its mission.

In order to determine the significance of the secondary item, the PMEC and Equipment/Component MEC of each part must be determined. The PMEC represents the importance of the end item to the piece of equipment it supports. The PMEC is found in the COSAL and will be one of two codes. A code of 1 (Vital) signifies the end item will be inoperable if the part is not available. A code of 3 (Non-Vital) signifies the part is not critical to the operation of the end item. Appendix K lists the PMECs associated with each additional NIIN generated by the allowance reductions. 93.1% of these parts are considered Vital to the operation of the end item they support.

Of those parts coded Vital, the equipment/component MEC is looked at to determine how important the equipment/component is to the ability of the submarine to perform its mission. Appendix C lists and defines each of the equipment/component MECs. Of the seven codes there are three, i.e., 116, 110 and 98, which according to the definition will adversely impact the mission of the submarine.

At this point a key issue needs to be understood. Each Trident sustains NIS demands whose items have PMECs of 1 for Vital and equipment/component MECs of 116, 110 or 98. Allowance reductions will cause additional NIS demands to incur. Some of the items will have critical PMECs and equipment/component MECs assigned. To determine the exact impact of the additional NISs on mission readiness is difficult and somewhat subjective.

Appendix M summarizes the individual Trident's equipment/component MECs. Table 4-5 summarizes the data from Appendix M.

MEC	5%	10%	15%	20%	Total #	Percent
116	**1**	**3**	**0**	**0**	**4**	**4.9%**
110	**0**	**5**	**3**	**0**	**8**	**9.8%**
107	4	0	7	3	14	17.1%
104	0	0	0	0	0	0
101	2	4	2	1	9	11.0%
98	**0**	**1**	**4**	**2**	**7**	**8.5%**
95	6	9	9	16	40	48.8%
Totals	**13**	**22**	**25**	**22**	**82**	

Table 4-5 MEC Summary by Allowance Reduction Level

1. 5% SNSL Reduction Analysis

Getting to the point in this research where Table 4-5 could be determined, is particularly significant. It documents that of the 4,714 FY 94 HM&E demands studied, only 19 are considered by the supply system to potentially impact the ability of the submarine to complete its deterrent patrol. Of these 19 demands, four had the 116 MEC, eight had the 110 MEC and 7 had the 98 MEC. In theory, the answer to the first objective of this research is provided in Table 4-5.

These data show that at the 5% level of inventory reduction there would be one item with an equipment/component MEC of 116. This MEC is defined as "in the event of a single failure of the equipment/component (in its most critical application) for which no repair part is available, the mission of the submarine or the equipment/component capability cannot be accomplished." This sounds quite serious. From this initial analysis, one might have the tendency to conclude therefore that if the 5% HM&E allowance reductions were if affect, one Trident patrol would have been jeopardized.

a. Alaska 5% Reduction Level Analysis

At the 5% allowance reduction level there was one NIIN with a 116 equipment/component MEC that would have resulted in an NIS. It was a demand initiated by the USS Alaska. At this point the analysis needs to dig deeper into this NIS demand to see if it sheds any more light on the importance of the part to mission readiness. The HM&E COSAL provides additional pertinent information for the analysis of the importance of this part. Appendix N is a copy of the applicable APL page out of the HM&E COSAL. The APL is for a Control Drawer that supports oxygen and/or nitrogen generating equipment. The sixth item up from the bottom is the part in question. The third column from the left states the item is a Lamp, Midget, Screw. Reading across on that same line shows that each equipment/component has 64 of these screws installed. The unit of issue is 1 each. The onboard allowance table to the right in Appendix N states how many of the screws are allowed to be stockd as OBRPs based on the number of equipment/components installed on the submarine. The Alaska's SNSL states that the allowance for the part is 42. This equates to a ship's population of the equipment/component of between 5-8. The RPPO ordered all 42 of these screws. That is enough to replace 65.6 % of the screws

installed in one piece of the equipment/component. A 5% reduction to the original allowance of 42 results in an allowance quantity of 40. The RPPO would therefore receive two less screws to complete his maintenance action. Would two less screws cause a Trident submarine not to be able to complete its deterrent patrol? Were all 42 screws damaged or lost in the repair process so that they all had to be replaced? These are questions that can only be accurately answered by looking into the specific maintenance action being accomplished. Another consideration is whether all 5-8 equipments/components have to be on line for the submarine to function. The combination of this question and whether all 42 screws were actually required, leads the researcher to conclude that reducing the allowance of HM&E OBRBs by 5% would not have impacted the ability of the USS Alaska to complete its deterrent patrol.

2. 10% SNSL Reduction Analysis

The same analysis must be applied to determine the impact of the 10% level of allowance reductions on mission readiness. In this case there are 9 MECs, i.e., 3 116s, 5 110s and 1 98 that must be researched further by looking into each item's MEC on the applicable APL page in the COSAL. The 9 equipment/component MECs requiring further research apply to five Tridents, i.e., Michigan (4), Georgia (2), Florida (1), Nevada (1) and Alaska (1). The data from each submarine is analyzed individually.

a. Michigan 10% Reduction Level Analysis

The USS Michigan had two NIS demands with equipment/component MECs of 116 and two with a MECs of 110. The first NIS item was for retainer packing for a solenoid valve which supports the oxygen generator (APL T882183411) in this application as well as three other APLs. A review of the COSAL shows that there are 21-50 of these solenoid valves

onboard. Each valve requires one retainer packing. The original allowance level is 12 and the RPPO ordered 100% of the allowance for this maintenance action. Since each solenoid valve requires 1 retainer packing and the RPPO requested 12 of the item, one of two situations took place. Either 12 solenoid valves simultaneously failed and/or required preventative maintenance, or the RPPO ordered up to the allowance level and has the retainer packings not actually used during the maintenance in his possession for future use. Given the reliability of parts manufactured for submarines, the chance of 12 failing simultaneously or having the same periodicity for preventative maintenance is very small. This leads the researcher to conclude that all 12 retainer packings were not required for this maintenance action. Tridents are equipped with two oxygen generators and a backup system for generating oxygen with candles. The submarine takes 600 candles to sea just in case the oxygen generators fail. In the author's opinion the 10% allowance reduction would not have prevented the USS Michigan from completing its deterrent patrol.

The second USS Michigan NIS demand with a 116 MEC is for the same Midget Lamp Screw discussed in the USS Alaska's 5% reduction analysis above. This time the screw supports a 440 volt power supply (APL T111180001) for the 75 kws. There are 12 screws installed per power supply and 21-50 power supplies on board. The original allowance is for 42 and the RPPO ordered 40. At the 10% allowance reduction level the RPPO would receive two less screws than requested. The question is raised again as to the need for this many screws to complete the maintenance and whether having two less screws would shorten the Trident's patrol. This NIS would have no impact on the USS Michigan's patrol.

The third NIS demand had a MEC of 110. The item is citric acid and supports blower motor and pump motor assemblies in the carbon dioxide removal system (APL T990390005). The original allowance level is 12 and the RPPO ordered up to allowance. The COSAL shows that there are six bottles of citric acid used per piece of equipment and that there are two equipments/components on board. The 10% allowance reduction means the RPPO would have received 11 vice the 12 requested. Why did the RPPO submit a request for all 12? More than likely the citric acid for each of the two Carbon Dioxide scrubbers was changed out for preventative maintenance. The 10% reduction in this item would not have impacted the mission readiness of the submarine.

The fourth NIS also had a MEC of 110. It pertains to a first and second stage nub valve for the high pressure air compressor (APL T061900379). The original allowance for the item is 14 and the RPPO ordered up to allowance. The APL page in the COSAL revealed that there are 80 nub valves per equipment/component and the submarine has 2 on board. Why did the RPPO order 100% of the allowance quantity? He could have been doing preventative or corrective maintenance on the air compressor and realizing the allowance was 14, replaced the 14 worst valves with brand new ones. The lack of this item would not have kept the USS Michigan from completing its patrol.

b. Georgia 10% Reduction Level Analysis

The USS Georgia incurred one NIS with a MEC of 110. The item is the same citric acid used in the Carbon Dioxide removal system discussed above as the third NIS of the USS Michigan. For the same reasons previously discussed, this NIS would not have prevented the USS Georgia from completing patrol.

c. Florida 10% Reduction Level Analysis

The USS Florida had one NIS with a MEC of 110. The item, a splash seal, supports group A of the AN-BQQ6 sonar (APL T4600500). The original allowance level is 12 and the quantity requested by the RPPO was 12. The item's APL page shows that there are 99 splash seals per equipment/component and that the submarine has 2. Once again the RPPO ordered 100% of the allowance. The reduction of the item by 10% would have meant the RPPO would have received 11 instead of 12 seals. Were all 12 required for the maintenance or were the worst 12 of the 99 seals in the equipment/component replaced with brand new ones? Would receiving only 11 have cause the submarine to not complete its patrol? These questions cannot be accurately answered without more specific maintenance information. The author feels decreasing the allowance for this item would not have impacted the USS Florida's mission readiness.

d. Alaska 10% Reduction Level Analysis

The USS Alaska had one NIS with a MEC of 98%. The item is an electcrical brush used on an AC generator. The original allowance level is 12 and the RPPO ordered up to allowance. Each of the two AC generators on board have 12 brushes installed. Reducing the allowance of this brush by 10% would mean 11 would be stocked vice 12. This maintenance could have been completed by replacing the 11 most worn brushes of the 12 and mission readiness would not have been sacrificed.

e. Nevada 10% Reduction Level Analysis

The USS Nevada incurred 1 NIS with a MEC of 110 at the 10% allowance reduction level. The item is packing used in flow regulator valves (APL T889900513). There are 2 packing items required for each valve. The submarine has between 21-50 regulator valves on

board. The original allowance for the packing is 90 and the RPPO requested 82. The 10% reduction means the new allowance would have been 81. The RPPO would have received one less than requested. This would not have impacted the ability of the USS Nevada to complete its patrol.

3. 15% SNSL Reduction Analysis

When the Trident HM&E COSAL was reduced by 15%, five Tridents incurred a total of 7 NISs with equipment/component MECs of 110 and 98. A summary of the pertinent data relating to each item is presented in Table 4-6.

SUB	ITEM	MEC	APL	System	Item/Eq	Allowed	Request
Alabama	Retainer	98	T887305859	Ball Valve	2	14	15
Alabama	Packing	98	T887045286	Gate Valve	7	6	7
Alaska	Packing	98	T887045286	Gate Valve	7	6	7
Nevada	Retainer	98	T882303914	Ball Valve	2	7	8

Table 4-6 15% Allowance Reduction Summary

The NISs resulting from the 15% HM&E allowance reductions are summarized in Table 4-6 vice individually discussing each item. The reason is that from an analysis perspective they are quite similar. Each item is requested in a quantity that is one more than the 15% reduction allows. 3 of the 4 items were requested at 100% of the original allowance level. Any reduction made to those items would automatically result in an NIS demand. There are two important questions to ask at this point. First, could the RPPOs have completed the maintenance action with one less part? Two, how would the one less part have impacted the mission of the submarine? Based on the same line of reasoning used in the 5% and 10% SNSL Reduction

Analysis subsections previously discussed, these maintenance actions could have been completed with one less part without impacting Trident mission readiness.

4. 20% SNSL Reduction Analysis

The final level of HM&E allowance reductions to be analyzed in this research is 20%. Table 4-7 lists the two additional NISs that would have taken place had the 20% inventory reduction been applied during the patrols in FY 94. Both of the NISs have an equipment/component MEC of 98.

SUB	ITEM	MEC	APL	System	Item/Eq	Allowed	Request
Alabama	Fuse	98	T151210184	AC Contro	3	5	6
Nevada	Fuse	98	T221250141	Switchboar	3	11	12

Table 4-7 20% Allowance Reduction Summary

In both of the NIS situations above, the RPPO ordered 100% of the original allowance level. The 20% reduction would have caused one less part to be issued than was requested. The submarine has between 9 and 20 AC controllers on board and between 21-50 control and distribution switchboards. Due to fact that each of these items only has 3 fuses installed, the RPPO should not have ordered up to allowance. The 20% HM&E allowance reductions therefore would not have impacted the ability of the submarines to complete their assigned missions.

D. NO-HIT DECK ANALYSIS

Allowances for HM&E OBRPs are recorded in two places on the submarine i.e., the COSAL and individual stock record cards. Each secondary end item has its own stock record card and is stored in one of three groups based on its demand history. One of the groups is called

the No-Hit Deck. This deck is composed of all the stock record cards that have not experienced a demand in the last year. The No-Hit Deck for the USS Michigan was reviewed to determine how many parts have never experienced a demand in the submarine's history. The USS Michigan was commissioned on 11 September 1982. The first 4,800 stock record cards representing approximately 50% of the No-Hit Deck were reviewed. The review revealed that 2,219 line items or 46% of those reviewed had not experienced a demand in the operational lifetime of the submarine. The 2,219 line items represents approximately 13% of all the HM&E OBRPs. Appendix O lists each end item and the extended total dollar value of the 2,219 items reviewed. The cumulative dollar value of these parts is $ 235,603. A number of these items are categorized as insurance items, where no failure is predicted through normal usage. If a failure occurs, the lack of replacement would seriously hamper the operational capability of the submarine. It is hoped that documenting the magnitude and cost of idle OBRPs in the analysis of the No-Hit Deck would prompt inventory managers to take another look at the stockage objectives aboard our ships.

V. CONCLUSIONS

In this chapter, conclusions are drawn from the findings of the research and recommendations are proposed for further study. Chapter I listed three objectives this research set out to answer. The purpose was to determine what impact reducing the HM&E allowance levels would have had on 14 FY94 Trident patrols. The researcher presents these objective conclusions solely with the intent of prompting Navy inventory managers to re-evaluate the current levels of HM&E inventory stocked on board Tridents. It is not the author's purpose to suggest inventory policy changes based on this research. With that being said, the conclusions of the three objectives follow.

A. OBJECTIVE ONE CONTRIBUTION

The first objective looked at how mission readiness would be impacted by lowering the HM&E allowance levels. By lowering allowance levels, it was documented that an increased number of NIS demands occurred. It was important to determine the significance of those items to the mission of the submarine. The objective was further narrowed to determine, if the allowance levels were lowered in four increments of 5% each, what impact, based on the significance of the part and the APL, the reductions would have on the submarine's ability to perform its mission. The analysis conducted in Chapter IV resulted in the answer to objective one. Based on the historical demand of the 14 patrols studied, the researcher feels there would have been negligible impact on the ability of the Tridents to complete their strategic deterrent patrols. Reduction of HM&E inventory actually has the potential to improve mission readiness. Reducing allowance levels improves OBRP stowage conditions by decreasing the number of

overcrowded locker bins. This allows shipboard inventory managers quicker access to stowed parts and thus the ability to issue parts more efficiently. When critical corrective maintenance actions occur, efficient retrieval of stowed parts directly support mission readiness.

B. OBJECTIVE TWO CONTRIBUTION

Objective two sought to quantify the cost savings that could be achieved through inventory reductions. The answer to the second objective hinged on whether it was concluded that the 5%, 10%, 15% or 20% inventory reductions significantly impacted mission readiness. If mission readiness was impacted starting at the 10% inventory reduction level, cost savings would have been calculated only for 5% reductions. Since the conclusion of objective one was no impact on mission readiness all the way up to the 20% level of reductions, OM&N savings were computed for all four levels. In an era when defense spending is continually scrutinized, creative cost saving solutions by the Department of Defense are important. Table 5-1 depicts the potential cost savings per submarine each inventory cycle based on each level of HM&E reductions.

HM&E Reduced	OM&N Savings
5 Percent	$ 86,804
10 Percent	$ 220,538
15 Percent	$ 368,029
20 Percent	$ 582,768

Table 5-1 Allowance Reductions Cost Savings

C. OBJECTIVE THREE CONTRIBUTION

It was anticipated that somewhere between the 5% and 20% level of reductions would be a point where no mission impact would have been felt due to the increase in NIS demands. Objective three was to take into account the importance of the parts no longer available, determine what systems they impacted and decide what percentage level of inventory reductions would not have impacted mission readiness. Since objective one concluded no mission impact up to the 20% level, objective three cannot be adequately answered without increasing the HM&E allowance reduction levels in excess of 20% and conducting further analysis. Conducting that research would have involved significantly more time than was allotted for this thesis.

D. FURTHER STUDY TOPICS

1. Demand Patterns

One of the inventory management issues that came to light as a result of this study relates to patterns of demand. It was noted that almost 90% of the additional NISs incurred because RPPOs ordered up to or above allowance. This pattern of requests by RPPOs has far reaching implications.

First, since inventory levels of OBRPs are demand driven, demands up to or over allowance are sending false signals to the supply system. Demand is being inflated. The allowance determination models that monitor inventory demand get inputted with inflated demand history. This drives larger allowances of OBRPs than are actually needed.

Second, there is a direct correlation between inflated demand and gross effectiveness. When RPPOs order up to allowance, there are no more of the item in stock. The next time there

is a demand for that item, an NIS demand occurs. If the RPPO actually only needed 4 of the items vice the 12 he ordered, there would have been 8 left for other work centers to draw from as maintenance actions occur. The system does not provide any incentive for the RPPO to be resource conscious. There are not any additional costs felt by RPPOs when they order more parts than required. They now have "bench spares" that can be used without having to administratively support the demand for the item through a supply requisition document.

It is recommended that any work center maintenance technician submitting requests for supply stock be required to document, i.e. maintenance manuals or maintenance requirement cards, the need for the quantity requested prior to approval of that item to be issued from stock. The person submitting the request should transcribe from the applicable APL page onto the request document, how many of these items are installed in the equipment/component being repaired. This would provide shipboard inventory managers an opportunity to screen out requests that are in excess of what is actually needed for the preventative or corrective maintenance action.

2. Further HM&E Reductions

This research concludes that reducing the level of HM&E inventory up to 20% would not impact that ability of the 14 Tridents studied from completing their patrols. A natural follow-up study would be to continue increasing the allowance reductions in 5% increments until mission readiness is documented to have been impacted.

3. No-Hit Deck Review

This research reviewed approximately 50% of the USS Michigan's No-Hit Deck. It seemed profound to the researcher that over 46% of the 4,800 stock record cards reviewed, valued at over $235,000, had never experienced a demand. A follow-on study of OBRPs that

have not experienced any demand could provide inventory managers additional data from which to access future inventory stocking objectives.

APPENDIX (A)

Supply Management: Elements Of Supply Operations

Cataloging - The collection, storage and publication of all technical information regarding equipment and parts support for the Navy.

Identification - Properly identifying systems, equipment and spare parts as they become Navy property.

Standardization - The effort to procure standardized weapons systems for the Navy without compromising readiness.

Requirements Determination - Determining when and how much of each spare part to procure.

Procurement - The act of purchasing material and equipment.

Inspection/Quality Control - Ensuring the accuracy of Navy stock inventories and validating the procured material meets the highest standards for use.

Storage - Ensuring the safe stowage of material prior to use by the customer.

Distribution - The location of Navy material so that it is available for customer use when required.

Disposal - The proper removal from the Navy's inventories of an item of stock at the end of its useful service life.

Repair Management - Arranging for the rebuilding and restoration of economically repairable material.

Transportation - Proper shipment of material to customers, repair activities, and inventories.

War Reserve Planning - Participating in mobilization planning, industrial readiness planning and item managment classification.

APPENDIX (B)

Provisioning Parts List (PPL)

Commercial Activity Government Entity
Manufacturers Part Number
Long Reference Part Number Code
Reference Number Category Code
Reference Number Format Code
Item Name
Quantity Per Assembly
Quantity Per End Item
Unit Of Measure
Source Maintenance And Recoverablility Code
National Stock Number/Navy Item Control Number
Failure Factor 1 - Application Replacement Factor
Failure Factor 2 - Minimum Replacement Unit
Essentiality Code
Shelf Life Code
Production Lead Time
Unit Price
Quantity Unit Pack
Reference Designation
Physical/Security Pilferage Code
Special Handling Code
Maintenance Task Distribution
Contract Turn Around Time

Note: The highlighted elements are critical to the requirements determination process.

APPENDIX (C)

Trident Equipment / Component Military Essentiality Codes

1. MEC 116: Total Degradation

In the event of a single failure of the equipment/component (in its most critical application) for which no repair part is available, the mission of the submarine or the equipment/component capability cannot be accomplished.

2. MEC 110: Partial Degradation

In the event of a single failure of the equipment/component (in its most critical application) for which no repair part is available, the capability of a Trident submarine to accomplish its mission, or the equipment or component to perform its function is substantially reduced even after the crew has taken steps to restore the function through alternatives, redundancies, or operating/maintenance procedures.

3. MEC 107: Negligible Degradation

In the event of a single failure of the equipment/component (in its most critical application) for which no repair part is available, the capability of a Trident submarine to accomplish its mission, or the equipment/component to perform its function, can be restore to full effectiveness through alternatives, redundancies, or operating/maintenance procedures.

4. MEC 104: Redundancies

Redundancies relate to cases of multiple installations of identical equipments/components where, in the event of the failure of a single unit, the surviving unit or units would permit continuous operation of the equipment/components at equivalent effectiveness.

5. MEC 101: Alternatives

Alternatives, unlike redundancies, are not identical to the prime unit. They consist of alternative or emergency equipments/components that have the capability of permitting continuous operation of the equipment/component in the event of the failure of the prime equipment/component, at either equivalent or partially reduced effectiveness.

6. MEC 98: Reduced Effectiveness

When the potential alternatives and redundancies are considered, failure of this particular unit will result in partial degradation.

7. MEC 95: Major/Minor Dependence

In the event of a single failure of the component within the equipment (in its most critical application) for which no repair part is available, the capability of the equipment to perform its function can be restored to full effectiveness through alternatives, redundancies, or operating/maintenance procedures. All other dependence is considered major.

APPENDIX (D)

Uss Nevada - Unscreened HM&E Demand Patrol Data

NIIN	Req'n Number	Supple. Address	Underway Demand	Unit Of Issue	Item Nomenclature
000035490	R2104341863239	SIMSK	00002	EA	RETAINER,PACKING
000035490	R2104341472932	SIMSK	00004	EA	RETAINER,PACKING
000035491	R2104341863240	SIMSK	00004	EA	RETAINER,PACKING
000062532	R2104341643195	SEM01	00002	LB	PACKING MATERIAL
000062532	R2104341663220	STOCK	00001	LB	PACKING MATERIAL
000181519	R2104341863381	OER09	00003	EA	WRENCH,SPANNER
000200186	R2104341863241	SIMSK	00008	EA	PACKING,PREFORMED
000303170	R2104341472980	STOCK	00002	EA	GASKET
000421028	R2104341863317	STOCK	00001	EA	GASKET
000494789	R2104341863318	STOCK	00002	EA	SPRING,HANDSET HOLD
000544946	R2104341583120	STOCK	00001	EA	PACKING,PREFORMED
000625058	R2104341472966	SIMSK	00003	EA	
000646507	R2104341863242	SIMSK	00005	EA	PACKING,PREFORMED
000646507	R2104341472933	SIMSK	00008	EA	PACKING,PREFORMED
000708520	R2104341863399	OWQ01	00001	EA	MICROPHONE,DYNAMIC
000730506	R2104341643178	STOCK	00001	EA	
000802191	R2104341473067	OEE01	00100	EA	TERMINAL,LUG
000871644	R2104341863243	SIMSK	00001	EA	TUBING,NONMETALLIC
000871644	R2104341472934	SIMSK	00001	EA	TUBING,NONMETALLIC
001042101	R2104341866184	STOCK	00001	EA	MODULE, ANNUNCIATOR
001042101	R2104341866185	STOCK	00001	EA	MODULE, ANNUNCIATOR
001114753	R2104341472981	STOCK	00001	EA	RESISTOR,FIXED,COMP
001139828	R2104341472982	STOCK	00001	HD	TERMINAL,LUG
001260877	R2104341863306	SIMSK	00001	EA	SPRAY TIP,NOZZLE,FU
001270307	R2104341863307	SIMSK	00002	EA	NOZZLE,FUEL INJECTI
001296576	R2104341863244	SIMSK	00001	RO	CHART,RECORDING INS
001320682	R2104341863320	STOCK	00001	EA	GASKET
001324011	R2104341472935	SIMSK	00001	PG	LAMP,INCANDESCENT
001324011	R2104341863245	SIMSK	00001	PG	LAMP,INCANDESCENT
001330796	R2104341863321	STOCK	00001	EA	GASKET
001411187	R2104341472983	STOCK	00001	EA	RESISTOR,FIXED,COMP
001433060	R2104341863246	SIMSK	00003	EA	LAMP,INCANDESCENT
001433060	R2104341472936	SIMSK	00013	EA	LAMP,INCANDESCENT
001435147	R2104341473068	OEE01	00100	EA	SPLICE,CONDUCTOR
001483835	R2104341863322	STOCK	00010	EA	SEAL,SPLASH
001522992	R2104341663200	SIMSK	00014	EA	LAMP,FLUORESCENT
001557836	R2104341863248	SIMSK	00001	BX	LAMP,INCANDESCENT
001609651	R2104341472985	STOCK	00002	EA	VALVE,CHECK
001651944	R2104341863249	SIMSK	00005	EA	PACKING,PREFORMED
001651948	R2104341583121	STOCK	00001	EA	PACKING,PREFORMED
001651949	R2104341472986	STOCK	00009	EA	PACKING PREFORMED

001651962	R2104341863251	SIMSK	00017	EA	PACKING,PREFORMED
001651981	R2104341583111	SIMSK	00001	EA	PACKING,PREFORMED
001651981	R2104341863252	SIMSK	00001	EA	PACKING,PREFORMED
001660966	R2104341472987	STOCK	00003	EA	PACKING,PREFORMED
001660968	R2104341583123	STOCK	00008	EA	PACKING,PREFORMED
001660968	R2104341472988	STOCK	00016	EA	PACKING,PREFORMED
001660980	R2104341583112	SIMSK	00015	EA	PACKING,PREFORMED
001660980	R2104341472937	SIMSK	00003	EA	PACKING,PREFORMED
001660988	R2104341583124	STOCK	00002	EA	PACKING,PREFORMED
001660992	R2104341472989	STOCK	00001	EA	PACKING,PREFORMED
001661011	R2104341583113	SIMSK	00006	EA	PACKING,PREFORMED
001661030	R2104341863324	STOCK	00002	EA	PACKING,PREFORMED
001661063	R2104341663201	SIMSK	00001	EA	PACKING,PREFORMED
001661063	R2104341863253	SIMSK	00001	EA	PACKING,PREFORMED
001661066	R2104341643170	SIMSK	00001	EA	PACKING,PREFORMED
001668403	R2104341663202	SIMST	00001	EA	PACKING,PREFORMED
001668412	R2104341472938	SIMSK	00024	EA	PACKING,PREFORMED
001668415	R2104341583125	STOCK	00002	EA	PACKING,PREFORMED
001668422	R2104341863254	SIMSK	00017	EA	PACKING,PREFORMED
001675119	R2104341863325	STOCK	00003	EA	PACKING,PREFORMED
001675175	R2104341663203	SIMST	00003	EA	PACKING,PREFORMED
001715048	R2104341863316	STOCK	00001	PG	RETAINER,PACKING
001715908	R2104341643179	STOCK	00008	EA	RETAINER,PACKING
001726188	R2104341863326	STOCK	00001	EA	SENSOR,TAPE
001737243	R2104341472939	SIMSK	00001	CO	SCALE PREVENTIVE CO
001737243	R2104341863256	SIMSK	00001	CO	SCALE PREVENTIVE CO
001741365	R2104341473081	OER09	00010	EA	CANISTER,OXYGEN GEN
001788315	R2104341863389	OWI01	00001	EA	BRUSH,DUSTING,BENCH
001794963	R2104341863327	STOCK	00001	EA	THERMOSTAT
001897935	R2104341473073	OWF01	00003	EA	SOCKET,SOCKET WRENC
001986186	R2104341583128	STOCK	00008	EA	
002001841	R2104341473092	OEA01	00002	EA	COUPLING,GREASE GUN
002009642	R2104341863308	SIMSK	00002	EA	SPRING,HELICAL,COMP
002093484	R2104341863309	SIMSK	00004	EA	WASHER,RECESSED
002170157	R2104341863328	STOCK	00001	EA	SEAT,HELICAL COMPRE
002212650	R2104341583126	STOCK	00001	LB	WIRE,NONELECTRICAL
002265350	R2104341486146	SWSTK	00001	EA	AMPLIFIER,ELECTRONI
002285663	R2104341643173	SIMSK	00001	EA	LIGHT,INDICATOR
002285663	R2104341863257	SIMSK	00001	EA	LIGHT,INDICATOR
002289507	R2104341473085	OWF01	00003	EA	WRENCH,BOX AND OPEN
002289513	R2104341473084	OWF01	00003	EA	WRENCH,BOX AND OPEN
002325685	R2104341803696	OEM01	00003	EA	SOCKET,SOCKET WRENC
002405328	R2104341473075	OWQ01	00001	EA	WRENCH,ADJUSTABLE
002405364	R2104341473074	OWF01	00001	EA	HANDLE,SOCKET WRENC
002408703	R2104341473072	OWF01	00002	EA	ADAPTER,SOCKET WREN
002417464	R2104341863310	SIMSK	00001	EA	DISK,SOLID,PLAIN
002439963	R2104341863395	OWM01	00006	EA	THERMOMETER,SELF-IN
002449276	R2104341863329	STOCK	00001	SY	RUBBER SHEET,SOLID
002459430	R2104341473080	OER09	00006	RL	
002460932	R2104341863330	STOCK	00001	QT	SEALING COMPOUND

002704697	R2104341472940	SIMSK	00050	EA	LAMP,INCANDESCENT
002704698	R2104341472941	SIMSK	00050	EA	LAMP,INCANDESCENT
002705417	R2104341473078	OER09	00002	EA	FLASHLIGHT
002778833	R2104341473086	OWF01	00003	EA	WRENCH,BOX AND OPEN
002851836	R2104341863332	STOCK	00001	EA	HANDWHEEL
002871912	R2104341472942	SIMSK	00004	EA	FILTER ELEMENT,FLUI
002881229	R2104341583127	STOCK	00002	EA	RING,PISTON
002888739	R2104341863384	0WF01	00001	SE	SCREWDRIVER SET,JEW
002915815	R2104341863391	OWF01	00002	EA	BRUSH,WIRE,SCRATCH
002960361	R2104341472991	STOCK	00020	EA	FUSE,CARTRIDGE
002976658	R2104341863376	OWI01	00004	EA	BRUSH,PAINT
002979990	R2104341863258	SIMSK	00001	EA	PACKING,PREFORMED
002992884	R2104341863259	SIMSK	00006	BX	STARTER,FLUORESCENT
002995962	R2104341863260	SIMSK	00015	EA	STARTER,FLUORESCENT
003106437	R2104341473040	STOCK	00002	EA	GASKET
003189710	R2104341863333	STOCK	00003	EA	PIN,STRAIGHT,HEADLE
003294306	R2104341863383	0WF01	00005	EA	POUCH,MECHANIC'S TO
003294306	R2104341473082	OWF01	00001	EA	POUCH,MECHANIC'S TO
003687821	R2104341863387	OOC01	00001	EA	SHREDDING MACHINE,P
003772187	R2104341472992	STOCK	00001	EA	GASKET
003900119	R2104341663204	SIMST	00003	EA	GASKET
004326817	R2104341583114	SIMSK	00002	EA	GASKET
004498083	R2104341473076	OWQ01	00001	EA	WRENCH,ADJUSTABLE
004547586	R2104341863403	OEA01	00001	EA	VALVE,SAFETY RELIEF
004704003	R2104341866192	STOCK	00001	EA	PROJECTOR,STILL PIC
004846277	R2104341863261	SIMSK	00001	EA	GASKET
005011749	R2104341643180	STOCK	00001	EA	SWITCH,PUSH
005181791	R2104341643181	STOCK	00001	EA	FUSE,CARTRIDGE
005306260	R2104341583163	OEE01	00006	EA	CLEANER,VACUUM,ELEC
005306260	R2104341473070	OWIO1	00001	EA	CLEANER,VACUUM,ELEC
005373929	R2104341863335	STOCK	00002	EA	PACKING,PREFORMED
005385471	R2104341863262	SIMSK	00004	EA	FUSE,CARTRIDGE
005399705	R2104341863336	STOCK	00001	EA	LENS,LIGHT
005423051	R2104341472994	STOCK	00001	EA	DISK,VALVE
005484860	R2104341472943	SIMSK	00002	EA	GENERATOR,RINGING,H
005512446	R2104341473069	OEE01	00002	PG	TERMINAL,LUG
005590438	R2104341863377	OWI01	00002	EA	BRUSH,PAINT
005677115	R2104341583129	STOCK	00001	EA	GASKET
005778455	R2104341863337	STOCK	00001	EA	LAMP,INCANDESCENT
005797911	R2104341583130	STOCK	00002	EA	PACKING,PREFORMED
005801883	R2104341523107	STOCK	00002	EA	BUSHING,SLEEVE
005822149	R2104341863263	SIMSK	00020	EA	SPACER,RING
005841948	R2104341472944	SIMSK	00002	EA	PACKING,PREFORMED
005886707	R2104341472995	STOCK	00010	EA	RING, SEALING
005950135	R2104341583115	SIMSK	00001	EA	FILTER ELEMENT,AIR
005950135	R2104341472945	SIMSK	00002	EA	FILTER ELEMENT,AIR
005950138	R2104341643182	STOCK	00004	EA	FILTER ELEMENT,AIR
005950138	R2104341863338	STOCK	00004	EA	FILTER ELEMENT,AIR
005975141	R2104341863311	SIMSK	00030	EA	SHIM
005975142	R2104341863312	SIMSK	00046	EA	SHIM

006028055	R2104341472946	SIMSK	00001	EA	CHART PAPER,INDICAT
006028055	R2104341863265	SIMSK	00001	EA	CHART PAPER,INDICAT
006045836	R2104341863339	STOCK	00024	EA	GASKET
006198929	R2104341863378	OWI01	00001	EA	BRUSH,ARTIST'S
006211819	R2104341863341	STOCK	00003	BT	LEAK TEST COMPOUND
006248065	R2104341863379	OWF01	00002	EA	PLIERS,SLIP JOINT
006296258	R2104341863380	OWF01	00002	EA	FINGER,MECHANICAL
006342408	R2104341863394	OEE01	00010	PG	TOWEL,MACHINERY WIP
006429879	R2104341472996	STOCK	00001	EA	HOLDER,HANDSET
006431310	R2104341863319	STOCK	00001	PG	BATTERY, NONRECHARG
006554241	R2104341472997	STOCK	00001	EA	SWITCH,TOGGLE
006660964	R2104341472998	STOCK	00001	EA	RELAY,THERMAL
006846699	R2104341863266	SIMSK	00002	EA	FILTER ELEMENT,FLUI
006846700	R2104341863340	STOCK	00004	EA	FILTER ELEMENT,FLUI
006850517	R2104341472999	STOCK	00001	EA	SPRING,HELICAL,COMP
006896438	R2104341863267	SIMSK	00004	EA	DESICCANT,ACTIVATED
006896438	R2104341472947	SIMSK	00004	EA	DESICCANT,ACTIVATED
006896445	R2104341863268	SIMSK	00001	EA	CARTRIDGE ASSEMBLY,
006896460	R2104341472948	SIMSK	00004	EA	PACKING,PREFORMED
006896461	R2104341472949	SIMSK	00004	EA	RETAINER,PACKING
006896470	R2104341863342	STOCK	00001	EA	PACKING,PREFORMED
006896471	R2104341863343	STOCK	00002	EA	PACKING,PREFORMED
006896472	R2104341863269	SIMSK	00004	EA	PACKING,PREFORMED
006902068	R2104341473000	STOCK	00001	EA	DIAPHRAGM,VALVE,FLA
006910144	R2104341583131	STOCK	00001	EA	PACKING,PREFORMED
006910145	R2104341583132	STOCK	00001	HD	PACKING,PREFORMED
007022534	R2104341863344	STOCK	00002	EA	RETAINER,PACKING
007024297	R2104341863315	SIMSK	00006	TU	SILICONE COMPOUND
007121452	R2104341583133	STOCK	00003	EA	VANE,PUMP,ROTARY
007242199	R2104341473049	NWF01	00001	EA	METER,TIME TOTALIZI
007381672	R2104341643192	SEM01	00001	DR	DESICCANT,ACTIVATED
007381672	R2104341643183	STOCK	00002	DR	DESICCANT,ACTIVATED
007637744	R2104341472951	SIMSK	00010	EA	LAMP,INCANDESCENT
007637744	R2104341863270	SIMSK	00128	EA	LAMP,INCANDESCENT
007690945	R2104341863524	OMH01	00010	SE	TUBE,GAS DETECTOR,C
007690959	R2104341863525	OMH01	00006	SE	TUBE,GAS DETECTOR
007767201	R2104341583135	STOCK	00003	EA	SPRING,HELICAL,COMP
007767208	R2104341663205	SIMST	00016	EA	BRUSH,ELECTRICAL CO
007811897	R2104341863345	STOCK	00002	EA	WASHER,FLAT
007991876	R2104341523106	STOCK	00002	EA	BUSHING,SLEEVE
008001411	R2104341863397	OSS02	00400	EA	CONTAINER,TRASH
008078427	R2104341472952	SIMSK	00004	EA	BRUSH,ELECTRICAL CO
008078427	R2104341643175	SIMSK	00004	EA	BRUSH,ELECTRICAL CO
008102420	R2104341473001	STOCK	00001	EA	SWITCH,PUSH
008113839	R2104341472953	SIMSK	00004	EA	FILTER ELEMENT,FLUI
008136054	R2104341863314	SIMSK	00003	EA	ANODE,CORROSION PRE
008408849	R2104341472954	SIMSK	00003	EA	HANDSET
008459150	R2104341863398	OSS02	00137	BX	WEIGHT,CANVAS BAG
008681246	R2104341472955	SIMSK	00001	EA	TIMER,SEQUENTIAL
008684223	R2104341472956	SIMSK	00001	EA	SWITCH,SENSITIVE

008980142	R2104341863273	SIMSK	00002	EA	NUT,DRAG HOUSING
009006401	R2104341863274	SIMSK	00006	EA	HEADSET-CHEST SET,E
009006401	R2104341863275	SIMSK	00001	EA	HEADSET-CHEST SET,E
009139544	R2104341472958	SIMSK	00005	EA	MICROPHONE,MAGNETIC
009141118	R2104341472959	SIMSK	00001	EA	O-RING
009279572	R2104341473066	OEE01	00010	EA	SPLICE,CONDUCTOR
009300030	R2104341473041	SIMSK	00009	PG	BATTERY,DRY
009312473	R2104341473002	STOCK	00002	EA	FILTER ELEMENT,FLUI
009381786	R2104341473093	OER09	00001	EA	COVERALLS,HEAT-RESI
009424728	R2104341473003	STOCK	00001	SH	ASBESTOS SHEET,COMP
009498240	R2104341583116	SIMSK	00001	EA	DIAPHRAGM,VALVE,FLA
009647537	R2104341863348	STOCK	00001	BT	SEALING COMPOUND
009650288	R2104341473077	OEA01	00002	EA	LUBRICATING GUN,HAN
009692607	R2104341472960	SIMSK	00001	EA	GASKET
009692607	R2104341583117	SIMSK	00001	EA	GASKET
009733909	R2104341863349	STOCK	00001	EA	FILTER ELEMENT,FLUI
009838551	R2104341472961	SIMSK	00003	QT	ISOPROPYL ALCOHOL,T
009857845	R2104341472962	SIMSK	00009	PG	BATTERY, NONRECHARG
009974399	R2104341473004	STOCK	00001	EA	UNIT,FLOAT TRAP
010053579	R2104341473005	STOCK	00005	EA	CONNECTOR,PLUG,ELEC
010062129	R2104341863278	SIMSK	00001	EA	PACKING,PREFORMED
010075144	R2104341643184	STOCK	00004	EA	PACKING,PREFORMED
010086728	R2104341473057	OEE01	00100	EA	TERMINAL,LUG
010105906	R2104341863404	OEA01	00001	EA	SCALE,SPRING
010107960	R2104341863522	OMH01	00004	SE	TUBE,GAS DETECTOR
010107963	R2104341863523	OMH01	00004	SE	TUBE,GAS DETECTOR
010107963	R2104341863520	OMH01	00004	SE	TUBE,GAS DETECTOR
010107964	R2104341863521	OMH01	00002	SE	TUBE,GAS DETECTOR
010170423	R2104341473006	STOCK	00004	EA	PACKING,PREFORMED
010217381	R2104341473087	OEA01	00002	EA	REMOVAL AND INSTALL
010239823	R2104341643185	STOCK	00001	EA	SWITCH,THERMOSTATIC
010249149	R2104341473007	STOCK	00001	EA	CONNECTOR,PLUG,ELEC
010250947	R2104341473008	STOCK	00004	EA	CONTACT,ELECTRICAL
010252741	R2104341863350	STOCK	00001	EA	CONNECTOR,PLUG,ELEC
010253613	R2104341866188	STOCK	00001	EA	ELECTRONIC COMPONEN
010267526	R2104341473030	SIMSK	00003	EA	STYLUS ASSEMBLY
010294217	R2104341863351	STOCK	00003	CF	ION EXCHANGE COMPOU
010355392	R2104341473009	STOCK	00002	QT	LUBRICATING OIL,GEA
010355395	R2104341583137	STOCK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341863279	SIMSK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341663207	SIMSK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341473010	STOCK	00001	CN	LUBRICATING OIL,GEA
010360729	R2104341473011	STOCK	00001	EA	VALVE ASSEMBLY,WATE
010376137	R2104341472963	SIMSK	00002	EA	GASKET,SPIRAL WOUND
010376137	R2104341583118	SIMSK	00001	EA	GASKET,SPIRAL WOUND
010378353	R2104341663208	SIMST	00001	AY	PACKING ASSEMBLY
010378353	R2104341472964	SIMSK	00001	AY	PACKING ASSEMBLY
010387413	R2104341473012	STOCK	00002	EA	FILTER ELEMENT,FLUI
010387948	R2104341643186	STOCK	00001	EA	SWITCH,THERMOSTATIC
010421953	R2104341863280	SIMSK	00001	EA	COIL,ELECTRICAL

010478130	R2104341863355	STOCK	00001	EA	COVER,ELECTRICAL CO
010479842	R2104341473014	STOCK	00002	EA	FILTER,CARBON
010490562	R2104341473050	NEA01	00001	EA	GASKET
010520080	R2104341863356	STOCK	00001	EA	FILTER ELEMENT,FLUI
010529766	R2104341583138	STOCK	00001	EA	THERMOCOUPLE
010536506	R2104341863282	SIMSK	00004	EA	BRUSH,ELECTRICAL CO
010543047	R2104341583139	STOCK	00003	EA	ANODE,CORROSION PRE
010548160	R2104341863400	OWI01	00001	BX	TUBE,DETECTOR
010576083	R2104341863357	STOCK	00001	EA	FILTER ELEMENT,FLUI
010578542	R2104341486143	STOCK	00001	EA	PRINTER THERMAL ASS
010579691	R2104341472965	SIMSK	00002	EA	FILTER ELEMENT,FLUI
010584590	R2104341863283	SIMSK	00001	EA	GASKET
010585175	R2104341663229	STOCK	00002	EA	RELAY,ROTARY
010585324	R2104341863284	SIMSK	00001	EA	GASKET
010610204	R2104341663214	STOCK	00001	EA	HEATING ELEMENT,ELE
010618111	R2104341643176	SIMSK	00001	EA	VALVE,FLUSH
010631875	R2104341586801	088P1	00001	EA	TEST DEVICE,LEVEL
010648854	R2104341472967	SIMSK	00001	EA	DIAPHRAGM,VALVE,SPE
010655534	R2104341863313	SIMSK	00002	EA	SWITCH,PRESSURE
010670630	R2104341643187	STOCK	00001	EA	LENS,LIGHT
010673144	R2104341863285	SIMSK	00003	RO	RECORDING PAPER
010673144	R2104341472968	SIMSK	00003	RO	RECORDING PAPER
010682345	R2104341523108	STOCK	00002	EA	BUSHING,SLEEVE
010682346	R2104341523105	STOCK	00002	EA	BUSHING,SLEEVE
010682346	R2104341473099	NEA01	00001	EA	BUSHING,SLEEVE
010718630	R2104341473016	STOCK	00001	EA	POWER SUPPLY ASSEMB
010722213	R2104341663219	STOCK	00001	EA	CONNECTOR,PLUG,ELEC
010725323	R2104341473017	STOCK	00001	EA	TRANSFORMER,POWER
010744230	R2104341863392	OWK01	00006	BX	LIGHT,CHEMICAL WAND
010782936	R2104341473058	OEE01	00100	EA	TERMINAL,LUG
010790652	R2104341646177	STOCK	00001	EA	POWER SUPPLY
010790660	R2104341866182	SIMSK	00001	EA	ELECTRON TUBE
010791375	R2104341473065	OEE01	00001	HD	SPLICE,CONDUCTOR
010791936	R2104341473059	OEE01	00001	HD	SPLICE,CONDUCTOR
010793248	R2104341583140	STOCK	00001	EA	STRAINER ELEMENT,SE
010804509	R2104341863358	STOCK	00001	EA	CONNECTOR,PLUG,ELEC
010811877	R2104341863286	SIMSK	00006	EA	FILTER,AIR
010811877	R2104341663209	SIMST	00006	EA	FILTER,AIR
010811877	R2104341472969	SIMSK	00012	EA	FILTER,AIR
010817185	R2104341523109	NEE03	00001	EA	METER
010831915	R2104341863287	SIMSK	00001	EA	RING,PISTON
010847801	R2104341486151	STOCK	00001	EA	POWER SUPPLY
010853256	R2104341863360	STOCK	00002	EA	PACKING,PREFORMED
010858692	R2104341866186	STOCK	00001	EA	SOLENOID
010858692	R2104341486147	SIMSK	00001	EA	SOLENOID
010858692	R2104341866187	STOCK	00001	EA	SOLENOID
010858692	R2104341866189	STOCK	00001	EA	SOLENOID
010864991	R2104341473048	NEA01	00001	EA	VALVE,CHECK
010870285	R2104341473056	OEE01	00004	PG	TERMINAL,LUG
010874662	R2104341863361	STOCK	00005	EA	FILTER RETAINER

010906102	R2104341472970	SIMSK	00001	EA	SILENCER,EXHAUST
010931696	R2104341486159	STOCK	00001	EA	REGULATOR,PRESSURE
010932151	R2104341486160	STOCK	00001	EA	UNION,CELL GLAND
010937361	R2104341473020	STOCK	00001	EA	POINTER,VALVE
010938036	R2104341486150	STOCK	00001	EA	CIRCUIT CARD ASSEMB
010939513	R2104341643189	STOCK	00001	EA	SWITCH,PRESSURE
010954926	R2104341486144	STOCK	00001	EA	CIRCUIT CARD ASSEMB
010954926	R2104341866181	STOCK	00001	EA	CIRCUIT CARD ASSEMB
010958694	R2104341863289	SIMSK	00017	EA	FILTER,FLUID,PRESSU
010976472	R2104341863401	OEE01	00030	EA	FILTER,AIR
011001657	R2104341866180	STOCK	00001	EA	POWER SUPPLY
011001657	R2104341866179	STOCK	00001	EA	POWER SUPPLY
011002540	R2104341863362	STOCK	00001	EA	LIGHT EMITTING DIOD
011007661	R2104341486145	STOCK	00001	EA	INDICATOR ASSEMBLY
011027723	R2104341473022	STOCK	00001	EA	COIL,ELECTRICAL
011082589	R2104341472971	SIMSK	00002	EA	FILTER ELEMENT,FLUI
011082589	R2104341863290	SIMSK	00002	EA	FILTER ELEMENT,FLUI
011128105	R2104341473024	STOCK	00003	EA	PIN,STRAIGHT,HEADLE
011137814	R2104341473025	STOCK	00003	EA	BUSHING,SLEEVE
011141332	R2104341472972	SIMSK	00001	EA	TUBING,NONMETALLIC
011154404	R2104341866183	STOCK	00001	EA	TRANSDUCER
011172928	R2104341863385	OWI01	00001	CN	GREASE,BALL AND ROL
011174782	R2104341863291	SIMSK	00001	EA	CONTROL,TEMPERATURE
011209366	R2104341473026	STOCK	00001	EA	CAP,PROTECTIVE,DUST
011210510	R2104341473053	OEE01	00003	EA	LEAD SET,TEST
011216309	R2104341643190	STOCK	00001	EA	VALVE,CHECK
011216309	R2104341863293	SIMSK	00001	EA	VALVE,CHECK
011222472	R2104341863294	SIMSK	00001	AY	PACKING ASSEMBLY
011264517	R2104341583160	NEE01	00001	EA	SWITCH,THERMOSTATIC
011276057	R2104341473047	NWF01	00001	EA	SWITCH,PRESSURE
011451091	R2104341473027	STOCK	00001	EA	SEAL
011482422	R2104341863382	OER09	00002	EA	WRENCH,SPANNER
011482691	R2104341863295	SIMSK	00002	EA	PACKING,PREFORMED
011482691	R2104341472973	SIMSK	00002	EA	PACKING,PREFORMED
011500962	R2104341863296	SIMSK	00001	EA	FLOAT,VALVE
011500962	R2104341643177	SIMSK	00001	EA	FLOAT,VALVE
011500962	R2104341663210	SIMST	00001	EA	FLOAT,VALVE
011507743	R2104341863363	STOCK	00002	EA	RETAINER,PACKING
011581232	R2104341863297	SIMSK	00002	EA	HEADSET,ELECTRICAL
011589450	R2104341473079	OER09	00002	PR	GLOVES,ELECTRICAL W
011601672	R2104341583157	SEM01	00001	EA	STRAINER ELEMENT,SE
011601672	R2104341583142	STOCK	00001	EA	STRAINER ELEMENT,SE
011625621	R2104341472974	SIMSK	00001	EA	SEAL
011813306	R2104341863299	SIMSK	00003	EA	LAMPDRIVER
011813306	R2104341583119	SIMSK	00001	EA	LAMPDRIVER
011813360	R2104341472975	SIMSK	00001	EA	SWITCH,PUSH
011885418	R2104341663211	SIMST	00002	RO	PAPER,FILTER
012063848	R2104341663212	SIMST	00002	EA	FILTER ELEMENT,INTA
012063848	R2104341863300	SIMSK	00001	EA	FILTER ELEMENT,INTA
012063848	R2104341472976	SIMSK	00004	EA	FILTER ELEMENT,INTA

012136039	R2104341863304	SIMSK	00005	EA	FILTER,MOTOR GENERA
012217403	R2104341863365	STOCK	00001	EA	CELL,GATE VALVE
012233730	R2104341863405	OEA01	00001	EA	PUMP,LUBRICANT TRAN
012307691	R2104341643193	STOCK	00006	EA	GASKET
012339646	R2104341663228	STOCK	00001	EA	ANTENNA
012391273	R2104341473031	SIMSK	00001	EA	GASKET
012415217	R2104341473101	NEA01	00001	EA	VALVE,REGULATING,FL
012415217	R2104341523104	STOCK	00002	EA	VALVE,REGULATING,FL
012508597	R2104341863406	OEA01	00001	EA	VALVE,REGULATING,FL
012530072	R2104341643194	SEM01	00002	EA	GASKET
012530072	R2104341663224	STOCK	00001	EA	GASKET
012530072	R2104341863305	SIMSK	00001	EA	GASKET
012611114	R2104341663227	STOCK	00001	EA	FILTER ELEMENT,FLUI
012770532	R2104341473060	OEE01	00005	EA	SPLICE,CONDUCTOR
012770533	R2104341473064	OEE01	00010	EA	SPLICE,CONDUCTOR
012773791	R2104341473063	OEE01	00012	EA	SPLICE,CONDUCTOR
012773792	R2104341473062	OEE01	00006	EA	SPLICE,CONDUCTOR
012775128	R2104341863366	STOCK	00001	EA	MOUNT,RESILIENT
012800392	R2104341473055	OEE01	00005	EA	TERMINAL,LUG
012824549	R2104341486148	STOCK	00001	EA	CIRCUIT CARD ASSEMB
012833151	R2104341583143	STOCK	00001	EA	STEM,FLUID VALVE
012837782	R2104341472979	SIMSK	00003	EA	PACKING,PREFORMED
012960667	R2104341863374	OOC01	00001	EA	ANTENNA
013059865	R2104341863402	OEA01	00001	EA	PARTS KIT,LUBRICANT
013224518	R2104341583161	NWQ01	00001	EA	SWITCH,PUSH
013224923	R2104341583162	NWQ01	00001	EA	SWITCH,PUSH
013230301	R2104341663230	NEM01	00001	EA	VALVE,REGULATING,FL
013240143	R2104341643174	SIMSK	00002	EA	GASKET,SPIRAL WOUND
013240143	R2104341663216	SIMST	00002	EA	GASKET,SPIRAL WOUND
013460491	R2104341583144	STOCK	00001	EA	GASKET,SPIRAL WOUND
013474946	R2104341863388	OWK01	00002	EA	SLING,SURVIVORS,RES
013478151	R2104341473028	STOCK	00005	EA	GASKET
013569472	R2104341473029	STOCK	00004	EA	PACKING,PREFORMED
013734625	R2104341473052	OEE01	00001	EA	WRENCH,SPANNER
013769670	R2104341583158	SEM01	00005	EA	GASKET
013829208	R2104341863277	SIMSK	00002	PG	BATTERY,NONRECHARGE
015899450	R2104341473054	OEE01	00003	PR	
LWM024959	R2104341663215	SWSTK	00001	EA	
001260877	R210434181W238	SEA01	00009	EA	
001270307	R210434181W236	SEA01	00009	EA	
002009642	R210434181W234	SEA01	00009	EA	
002093484	R210434181W235	SEA01	00007	EA	
002417464	R210434181W237	SEA01	00009	EA	
006045836	R210434181W233	SEA01	00010	EA	
007811897	R210434181W232	SEA01	00010	EA	
010804509	R2104341643188	STOCK		1 EA	

RED 23 MAR 1995 REQUISITION/OPTAR LOG
A4 FILE ID UFA4G FISCAL YEA
ITION/OPTAR LOG NAME OF SHIP/ACTIVITY USS NEVADA
PT FORM 2155 UIC 21043 M

NSN	UI	COG	QTY REQ	QTY RECVD	DATE REC	QTY CANX	DATE CANX	SUPP ADDR	PR	ESTIMATED COST CHARGEABLE DIFFERENCE E	R	7	C	FC
6850001737243	CO	9G	1	1	4151	0	0000	YSIMSK	04	0.00	26.71	0.00	0.00	
6240002704697	EA	9G	50	50	4151	0	0000	YSIMSK	04	0.00	8.00	0.00	0.00	
6240002704698	EA	9G	50	50	4151	0	0000	YSIMSK	04	0.00	9.00	0.00	0.00	
2910002871912	EA	9C	4	4	4151	0	0000	YSIMSK	04	0.00	19.88	0.00	0.00	
5805005484860	EA	1H	2	2	4151	0	0000	YSIMSK	04	0.00	562.00	0.00	0.00	
5330005841948	EA	9Z	2	2	4151	0	0000	YSIMSK	04	0.00	5.20	0.00	0.00	
4130005950135	EA	9G	2	2	4151	0	0000	YSIMSK	04	0.00	45.52	0.00	0.00	
7530006028055	EA	9Q	1	1	4151	0	0000	YSIMSK	04	0.00	6.75	0.00	0.00	
6850006896438	EA	9G	4	4	4151	0	0000	YSIMSK	04	0.00	148.00	0.00	0.00	
5330006896460	EA	9Z	4	4	4151	0	0000	YSIMSK	04	0.00	12.80	0.00	0.00	
5330006896461	EA	9Z	4	4	4151	0	0000	YSIMSK	04	0.00	18.00	0.00	0.00	
5330006896462CP	EA	1H	1	1	4157	0	0000	YSIMSK	04	0.00	2.90	0.00	0.00	
6240007637744	EA	9G	10	10	4151	0	0000	YSIMSK	04	0.00	2.40	0.00	0.00	
5977008078427	EA	9G	4	4	4151	0	0000	YSIMSK	04	0.00	31.84	0.00	0.00	
4330008113839	EA	9C	4	4	4151	0	0000	YSIMSK	04	0.00	15.80	0.00	0.00	
5965008408849	EA	9N	3	3	4151	0	0000	YSIMSK	04	0.00	313.80	0.00	0.00	
6645008681246	EA	9G	1	1	4151	0	0000	YSIMSK	04	0.00	77.43	0.00	0.00	
5930008684223	EA	9N	1	1	4151	0	0000	YSIMSK	04	0.00	99.76	0.00	0.00	
6850008807616	TU	9G	1	1	4151	0	0000	YSIMSK	04	0.00	3.40	0.00	0.00	
5965009139544	EA	9N	5	5	4151	0	0000	YSIMSK	04	0.00	982.65	0.00	0.00	
5330009141118	EA	9Z	1	1	4151	0	0000	YSIMSK	04	0.00	1.40	0.00	0.00	
5330009692607	EA	9Z	1	1	4151	0	0000	YSIMSK	04	0.00	3.93	0.00	0.00	
6810009838551	QT	9G	3	3	4151	0	0000	YSIMSK	04	0.00	9.03	0.00	0.00	
6135009857845	PG	9G	9	9	4151	0	0000	YSIMSK	04	0.00	48.96	0.00	0.00	
5330010376137	EA	9Z	2	2	4151	0	0000	YSIMSK	04	0.00	3.42	0.00	0.00	
5330010378353	AY	9Z	1	1	4151	0	0000	YSIMSK	04	0.00	3.66	0.00	0.00	
2940010579691	EA	9C	2	2	4151	0	0000	YSIMSK	04	0.00	10.34	0.00	0.00	
6625010625058	EA	9N	3	0	0000	0	0000	YSIMSK	04	0.00	6.75	0.00	0.00	
4820010648854	EA	9C	1	1	4151	0	0000	YSIMSK	04	0.00	52.71	0.00	0.00	
7530010673144	RO	9Q	3	3	4151	0	0000	YSIMSK	04	0.00	45.90	0.00	0.00	
2940010811877	EA	9C	12	12	4151	0	0000	YSIMSK	04	0.00	237.24	0.00	0.00	
4130010906102	EA	9G	1	1	4151	0	0000	YSIMSK	04	0.00	58.74	0.00	0.00	
4330011082589	EA	9C	2	2	4151	0	0000	YSIMSK	04	0.00	161.78	0.00	0.00	
9330011141332	EA	9G	1	1	4151	0	0000	YSIMSK	04	0.00	26.77	0.00	0.00	
5330011482691	EA	9Z	2	2	4151	0	0000	YSIMSK	04	0.00	1.12	0.00	0.00	
5330011625621	EA	9Z	1	1	4151	0	0000	YSIMSK	04	0.00	24.04	0.00	0.00	
5930011813360	EA	9N	1	1	4151	0	0000	YSIMSK	04	0.00	360.00	0.00	0.00	
2940012063848	EA	9C	4	4	4151	0	0000	YSIMSK	04	0.00	75.32	0.00	0.00	
5330012124624	EA	9Z	4	4	4151	0	0000	YSIMSK	04	0.00	8.20	0.00	0.00	
4330012136039	EA	9C	5	5	4151	0	0000	YSIMSK	04	0.00	65.55	0.00	0.00	
5330012837782	EA	9Z	3	3	4151	0	0000	YSIMSK	04	0.00	1.08	0.00	0.00	
5330000303170	EA	9Z	2	2	4151	0	0000	YSTOCK	04	0.00	0.98	0.00	0.00	
5905001114753	EA	9N	1	1	4151	0	0000	YSTOCK	04	0.00	0.08	0.00	0.00	

APPENDIX (F)

Uss Nevada - Patrol HM&E Demand Data

NIIN	Req'n Number	Supplementary Address	Underway Demand	Unit Of Issue	Item Nomenclature
000035490	R2104341863239	SIMSK	00002	EA	RETAINER,PACKING
000035490	R2104341472932	SIMSK	00004	EA	RETAINER,PACKING
000035491	R2104341863240	SIMSK	00004	EA	RETAINER,PACKING
000062532	R2104341643195	SEM01	00002	LB	PACKING MATERIAL
000062532	R2104341663220	STOCK	00001	LB	PACKING MATERIAL
000200186	R2104341863241	SIMSK	00008	EA	PACKING,PREFORMED
000303170	R2104341472980	STOCK	00002	EA	GASKET
000421028	R2104341863317	STOCK	00001	EA	GASKET
000494789	R2104341863318	STOCK	00002	EA	SPRING,HANDSET HOL
000544946	R2104341583120	STOCK	00001	EA	PACKING,PREFORMED
000625058	R2104341472966	SIMSK	00003	EA	
000646507	R2104341472933	SIMSK	00008	EA	PACKING,PREFORMED
000646507	R2104341863242	SIMSK	00005	EA	PACKING,PREFORMED
000730506	R2104341643178	STOCK	00001	EA	
000871644	R2104341863243	SIMSK	00001	EA	TUBING,NONMETALLIC
000871644	R2104341472934	SIMSK	00001	EA	TUBING,NONMETALLIC
001042101	R2104341866184	STOCK	00001	EA	MODULE, ANNUNCIATO
001042101	R2104341866185	STOCK	00001	EA	MODULE, ANNUNCIATO
001114753	R2104341472981	STOCK	00001	EA	RESISTOR,FIXED,COMP
001139828	R2104341472982	STOCK	00001	HD	TERMINAL,LUG
001260877	R2104341863306	SIMSK	00001	EA	SPRAY TIP,NOZZLE,FU
001270307	R2104341863307	SIMSK	00002	EA	NOZZLE,FUEL INJECTI
001296576	R2104341863244	SIMSK	00001	RO	CHART,RECORDING INS
001320682	R2104341863320	STOCK	00001	EA	GASKET
001324011	R2104341863245	SIMSK	00001	PG	LAMP,INCANDESCENT
001324011	R2104341472935	SIMSK	00001	PG	LAMP,INCANDESCENT
001330796	R2104341863321	STOCK	00001	EA	GASKET
001411187	R2104341472983	STOCK	00001	EA	RESISTOR,FIXED,COMP
001433060	R2104341863246	SIMSK	00003	EA	LAMP,INCANDESCENT
001433060	R2104341472936	SIMSK	00013	EA	LAMP,INCANDESCENT
001483835	R2104341863322	STOCK	00010	EA	SEAL,SPLASH
001522992	R2104341663200	SIMSK	00014	EA	LAMP,FLUORESCENT
001557836	R2104341863248	SIMSK	00001	BX	LAMP,INCANDESCENT
001609651	R2104341472985	STOCK	00002	EA	VALVE,CHECK
001651944	R2104341863249	SIMSK	00005	EA	PACKING,PREFORMED
001651948	R2104341583121	STOCK	00001	EA	PACKING,PREFORMED
001651949	R2104341473045	SEE03	00009	EA	PACKING,PREFORMED
001651949	R2104341472986	STOCK	00009	EA	PACKING,PREFORMED
001651952	R2104341583122	STOCK	00002	EA	PACKING,PREFORMED
001651953	R2104341583110	SIMSK	00002	EA	PACKING,PREFORMED
001651960	R2104341863250	SIMSK	00004	EA	PACKING,PREFORMED
001651962	R2104341863251	SIMSK	00017	EA	PACKING,PREFORMED
001651981	R2104341863252	SIMSK	00001	EA	PACKING,PREFORMED

001660980	R2104341583112	SIMSK	00015	EA	PACKING,PREFORMED
001660988	R2104341583124	STOCK	00002	EA	PACKING,PREFORMED
001660992	R2104341472989	STOCK	00001	EA	PACKING,PREFORMED
001661011	R2104341583113	SIMSK	00006	EA	PACKING,PREFORMED
001661030	R2104341863324	STOCK	00002	EA	PACKING,PREFORMED
001661063	R2104341863253	SIMSK	00001	EA	PACKING,PREFORMED
001661063	R2104341663201	SIMSK	00001	EA	PACKING,PREFORMED
001661066	R2104341643170	SIMSK	00001	EA	PACKING,PREFORMED
001668403	R2104341663202	SIMST	00001	EA	PACKING,PREFORMED
001668412	R2104341472938	SIMSK	00024	EA	PACKING,PREFORMED
001668415	R2104341583125	STOCK	00002	EA	PACKING,PREFORMED
001668422	R2104341863254	SIMSK	00017	EA	PACKING,PREFORMED
001675119	R2104341863325	STOCK	00003	EA	PACKING,PREFORMED
001675175	R2104341663203	SIMST	00003	EA	PACKING,PREFORMED
001715048	R2104341863316	STOCK	00001	PG	RETAINER,PACKING
001715908	R2104341643179	STOCK	00008	EA	RETAINER,PACKING
001726188	R2104341863326	STOCK	00001	EA	SENSOR,TAPE
001737243	R2104341863256	SIMSK	00001	CO	SCALE PREVENTIVE CO
001737243	R2104341472939	SIMSK	00001	CO	SCALE PREVENTIVE CO
001794963	R2104341863327	STOCK	00001	EA	THERMOSTAT
001986186	R2104341583128	STOCK	00008	EA	
002009642	R2104341863308	SIMSK	00002	EA	SPRING,HELICAL,COMP
002093484	R2104341863309	SIMSK	00004	EA	WASHER,RECESSED
002170157	R2104341863328	STOCK	00001	EA	SEAT,HELICAL COMPRE
002212650	R2104341583126	STOCK	00001	LB	WIRE,NONELECTRICAL
002285663	R2104341643173	SIMSK	00001	EA	LIGHT,INDICATOR
002285663	R2104341863257	SIMSK	00001	EA	LIGHT,INDICATOR
002417464	R2104341863310	SIMSK	00001	EA	DISK,SOLID,PLAIN
002449276	R2104341863329	STOCK	00001	SY	RUBBER SHEET,SOLID
002460932	R2104341863330	STOCK	00001	QT	SEALING COMPOUND
002500926	R2104341663217	STOCK	00001	CN	PETROLATUM,TECHNIC
002523391	R2104341663221	STOCK	00001	TU	SEALING COMPOUND
002552694	R2104341863331	STOCK	00001	EA	FILTER ELEMENT,FLUI
002584449	R2104341472990	STOCK	00008	EA	COVER,ELECTRICAL CO
002704697	R2104341472940	SIMSK	00050	EA	LAMP,INCANDESCENT
002704698	R2104341472941	SIMSK	00050	EA	LAMP,INCANDESCENT
002851836	R2104341863332	STOCK	00001	EA	HANDWHEEL
002871912	R2104341472942	SIMSK	00004	EA	FILTER ELEMENT,FLUI
002881229	R2104341583127	STOCK	00002	EA	RING,PISTON
002960361	R2104341472991	STOCK	00020	EA	FUSE,CARTRIDGE
002979990	R2104341863258	SIMSK	00001	EA	PACKING,PREFORMED
002992884	R2104341863259	SIMSK	00006	BX	STARTER,FLUORESCEN
002995962	R2104341863260	SIMSK	00015	EA	STARTER,FLUORESCEN
003106437	R2104341473040	STOCK	00002	EA	GASKET
003189710	R2104341863333	STOCK	00003	EA	PIN,STRAIGHT,HEADLE
003772187	R2104341472992	STOCK	00001	EA	GASKET
003900119	R2104341663204	SIMST	00003	EA	GASKET
004326817	R2104341583114	SIMSK	00002	EA	GASKET
004846277	R2104341863261	SIMSK	00001	EA	GASKET
005011749	R2104341643180	STOCK	00001	EA	SWITCH,PUSH
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

005677115	R2104341583129	STOCK	00001	EA	GASKET
005778455	R2104341863337	STOCK	00001	EA	LAMP,INCANDESCENT
005797911	R2104341583130	STOCK	00002	EA	PACKING,PREFORMED
005801883	R2104341523107	STOCK	00002	EA	BUSHING,SLEEVE
005822149	R2104341863263	SIMSK	00020	EA	SPACER,RING
005841948	R2104341472944	SIMSK	00002	EA	PACKING,PREFORMED
005886707	R2104341472995	STOCK	00010	EA	RING, SEALING
005950135	R2104341472945	SIMSK	00002	EA	FILTER ELEMENT,AIR
005950135	R2104341583115	SIMSK	00001	EA	FILTER ELEMENT,AIR
005950138	R2104341863338	STOCK	00004	EA	FILTER ELEMENT,AIR
005950138	R2104341643182	STOCK	00004	EA	FILTER ELEMENT,AIR
005975141	R2104341863311	SIMSK	00030	EA	SHIM
005975142	R2104341863312	SIMSK	00046	EA	SHIM
005999545	R2104341473043	SEM01	00002	FT	PACKING MATERIAL
005999545	R2104341473044	SEM01	00002	FT	PACKING MATERIAL
005999545	R2104341583164	SEM01	00002	FT	PACKING MATERIAL
005999545	R2104341473042	SEM01	00002	FT	PACKING MATERIAL
005999545	R2104341863264	SIMSK	00004	FT	PACKING MATERIAL
006028055	R2104341472946	SIMSK	00001	EA	CHART PAPER,INDICAT
006028055	R2104341863265	SIMSK	00001	EA	CHART PAPER,INDICAT
006045836	R2104341863339	STOCK	00024	EA	GASKET
006211819	R2104341863341	STOCK	00003	BT	LEAK TEST COMPOUND
006429879	R2104341472996	STOCK	00001	EA	HOLDER,HANDSET
006431310	R2104341863319	STOCK	00001	PG	BATTERY, NONRECHAR
006554241	R2104341472997	STOCK	00001	EA	SWITCH,TOGGLE
006660964	R2104341472998	STOCK	00001	EA	RELAY,THERMAL
006846699	R2104341863266	SIMSK	00002	EA	FILTER ELEMENT,FLUI
006846700	R2104341863340	STOCK	00004	EA	FILTER ELEMENT,FLUI
006850517	R2104341472999	STOCK	00001	EA	SPRING,HELICAL,COMP
006896438	R2104341863267	SIMSK	00004	EA	DESICCANT,ACTIVATED
006896438	R2104341472947	SIMSK	00004	EA	DESICCANT,ACTIVATED
006896445	R2104341863268	SIMSK	00001	EA	CARTRIDGE ASSEMBLY
006896460	R2104341472948	SIMSK	00004	EA	PACKING,PREFORMED
006896461	R2104341472949	SIMSK	00004	EA	RETAINER,PACKING
006896470	R2104341863342	STOCK	00001	EA	PACKING,PREFORMED
006896471	R2104341863343	STOCK	00002	EA	PACKING,PREFORMED
006896472	R2104341863269	SIMSK	00004	EA	PACKING,PREFORMED
006902068	R2104341473000	STOCK	00001	EA	DIAPHRAGM,VALVE,FLA
006910144	R2104341583131	STOCK	00001	EA	PACKING,PREFORMED
006910145	R2104341583132	STOCK	00001	HD	PACKING,PREFORMED
007022534	R2104341863344	STOCK	00002	EA	RETAINER,PACKING
007024297	R2104341863315	SIMSK	00006	TU	SILICONE COMPOUND
007121452	R2104341583133	STOCK	00003	EA	VANE,PUMP,ROTARY
007242199	R2104341473049	NWF01	00001	EA	METER,TIME TOTALIZI
007381672	R2104341643183	STOCK	00002	DR	DESICCANT,ACTIVATED
007381672	R2104341643192	SEM01	00001	DR	DESICCANT,ACTIVATED
007637744	R2104341863270	SIMSK	00128	EA	LAMP,INCANDESCENT
007637744	R2104341472951	SIMSK	00010	EA	LAMP,INCANDESCENT
007767201	R2104341583135	STOCK	00003	EA	SPRING,HELICAL,COMP
007767208	R2104341663205	SIMST	00016	EA	BRUSH,ELECTRICAL CO

008136054	R2104341863314	SIMSK	00003	EA	ANODE,CORROSION PR
008408849	R2104341472954	SIMSK	00003	EA	HANDSET
008681246	R2104341472955	SIMSK	00001	EA	TIMER,SEQUENTIAL
008684223	R2104341472956	SIMSK	00001	EA	SWITCH,SENSITIVE
008783911	R2104341583136	STOCK	00002	EA	INDICATOR,LIGHT
008807616	R2104341472957	SIMSK	00001	TU	SILICONE COMPOUND
008903411	R2104341863346	STOCK	00001	EA	PACKING,PREFORMED
008903412	R2104341863347	STOCK	00002	EA	GASKET
008921917	R2104341663223	STOCK	00004	EA	PACKING,PREFORMED
008950461	R2104341863272	SIMSK	00001	EA	BUSHING ASSEMBLY,D
008980142	R2104341863273	SIMSK	00002	EA	NUT,DRAG HOUSING
009006401	R2104341863275	SIMSK	00001	EA	HEADSET-CHEST SET,E
009006401	R2104341863274	SIMSK	00006	EA	HEADSET-CHEST SET,E
009139544	R2104341472958	SIMSK	00005	EA	MICROPHONE,MAGNETI
009141118	R2104341472959	SIMSK	00001	EA	O-RING
009300030	R2104341473041	SIMSK	00009	PG	BATTERY,DRY
009312473	R2104341473002	STOCK	00002	EA	FILTER ELEMENT,FLUI
009424728	R2104341473003	STOCK	00001	SH	ASBESTOS SHEET,COM
009498240	R2104341583116	SIMSK	00001	EA	DIAPHRAGM,VALVE,FLA
009647537	R2104341863348	STOCK	00001	BT	SEALING COMPOUND
009692607	R2104341472960	SIMSK	00001	EA	GASKET
009692607	R2104341583117	SIMSK	00001	EA	GASKET
009733909	R2104341863349	STOCK	00001	EA	FILTER ELEMENT,FLUI
009838551	R2104341472961	SIMSK	00003	QT	ISOPROPYL ALCOHOL,T
009857845	R2104341472962	SIMSK	00009	PG	BATTERY, NONRECHAR
009974399	R2104341473004	STOCK	00001	EA	UNIT,FLOAT TRAP
010053579	R2104341473005	STOCK	00005	EA	CONNECTOR,PLUG,ELE
010062129	R2104341863278	SIMSK	00001	EA	PACKING,PREFORMED
010075144	R2104341643184	STOCK	00004	EA	PACKING,PREFORMED
010170423	R2104341473006	STOCK	00004	EA	PACKING,PREFORMED
010239823	R2104341643185	STOCK	00001	EA	SWITCH,THERMOSTATI
010249149	R2104341473007	STOCK	00001	EA	CONNECTOR,PLUG,ELE
010250947	R2104341473008	STOCK	00004	EA	CONTACT,ELECTRICAL
010252741	R2104341863350	STOCK	00001	EA	CONNECTOR,PLUG,ELE
010253613	R2104341866188	STOCK	00001	EA	ELECTRONIC COMPON
010267526	R2104341473030	SIMSK	00003	EA	STYLUS ASSEMBLY
010294217	R2104341863351	STOCK	00003	CF	ION EXCHANGE COMPO
010355392	R2104341473009	STOCK	00002	QT	LUBRICATING OIL,GEA
010355395	R2104341473010	STOCK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341583137	STOCK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341663207	SIMSK	00001	CN	LUBRICATING OIL,GEA
010355395	R2104341863279	SIMSK	00001	CN	LUBRICATING OIL,GEA
010360729	R2104341473011	STOCK	00001	EA	VALVE ASSEMBLY,WAT
010376137	R2104341583118	SIMSK	00001	EA	GASKET,SPIRAL WOUN
010376137	R2104341472963	SIMSK	00002	EA	GASKET,SPIRAL WOUN
010378353	R2104341663208	SIMST	00001	AY	PACKING ASSEMBLY
010378353	R2104341472964	SIMSK	00001	AY	PACKING ASSEMBLY
010387413	R2104341473012	STOCK	00002	EA	FILTER ELEMENT,FLUI
010387948	R2104341643186	STOCK	00001	EA	SWITCH,THERMOSTATI
010421953	R2104341863280	SIMSK	00001	EA	COIL,ELECTRICAL

010479842	R2104341473014	STOCK	00002	EA	FILTER,CARBON
010490562	R2104341473050	NEA01	00001	EA	GASKET
010520080	R2104341863356	STOCK	00001	EA	FILTER ELEMENT,FLUI
010529766	R2104341583138	STOCK	00001	EA	THERMOCOUPLE
010536506	R2104341863282	SIMSK	00004	EA	BRUSH,ELECTRICAL CO
010543047	R2104341583139	STOCK	00003	EA	ANODE,CORROSION PR
010576083	R2104341863357	STOCK	00001	EA	FILTER ELEMENT,FLUI
010578542	R2104341486143	STOCK	00001	EA	PRINTER THERMAL ASS
010579691	R2104341472965	SIMSK	00002	EA	FILTER ELEMENT,FLUI
010584590	R2104341863283	SIMSK	00001	EA	GASKET
010585175	R2104341663229	STOCK	00002	EA	RELAY,ROTARY
010585324	R2104341863284	SIMSK	00001	EA	GASKET
010610204	R2104341663214	STOCK	00001	EA	HEATING ELEMENT,ELE
010618111	R2104341643176	SIMSK	00001	EA	VALVE,FLUSH
010648854	R2104341472967	SIMSK	00001	EA	DIAPHRAGM,VALVE,SP
010655534	R2104341863313	SIMSK	00002	EA	SWITCH,PRESSURE
010670630	R2104341643187	STOCK	00001	EA	LENS,LIGHT
010673144	R2104341472968	SIMSK	00003	RO	RECORDING PAPER
010673144	R2104341863285	SIMSK	00003	RO	RECORDING PAPER
010682345	R2104341523108	STOCK	00002	EA	BUSHING,SLEEVE
010682346	R2104341523105	STOCK	00002	EA	BUSHING,SLEEVE
010682346	R2104341473099	NEA01	00001	EA	BUSHING,SLEEVE
010718630	R2104341473016	STOCK	00001	EA	POWER SUPPLY ASSE
010722213	R2104341663219	STOCK	00001	EA	CONNECTOR,PLUG,ELE
010725323	R2104341473017	STOCK	00001	EA	TRANSFORMER,POWE
010790652	R2104341646177	STOCK	00001	EA	POWER SUPPLY
010790660	R2104341866182	SIMSK	00001	EA	ELECTRON TUBE
010793248	R2104341583140	STOCK	00001	EA	STRAINER ELEMENT,SE
010804509	R2104341863358	STOCK	00001	EA	CONNECTOR,PLUG,ELE
010811877	R2104341863286	SIMSK	00006	EA	FILTER,AIR
010811877	R2104341472969	SIMSK	00012	EA	FILTER,AIR
010811877	R2104341663209	SIMST	00006	EA	FILTER,AIR
010817185	R2104341523109	NEE03	00001	EA	METER
010831915	R2104341863287	SIMSK	00001	EA	RING,PISTON
010847801	R2104341486151	STOCK	00001	EA	POWER SUPPLY
010853256	R2104341863360	STOCK	00002	EA	PACKING,PREFORMED
010858692	R2104341866186	STOCK	00001	EA	SOLENOID
010858692	R2104341866189	STOCK	00001	EA	SOLENOID
010858692	R2104341866187	STOCK	00001	EA	SOLENOID
010858692	R2104341486147	SIMSK	00001	EA	SOLENOID
010864991	R2104341473048	NEA01	00001	EA	VALVE,CHECK
010874662	R2104341863361	STOCK	00005	EA	FILTER RETAINER
010889177	R2104341583141	STOCK	00002	EA	RING,VALVE
010889712	R2104341663218	STOCK	00002	EA	VALVE,GAGE INDICATO
010900924	R2104341473019	STOCK	00001	EA	VALVE,PLUG
010906102	R2104341472970	SIMSK	00001	EA	SILENCER,EXHAUST
010906102	R2104341473046	SEA01	00001	EA	SILENCER,EXHAUST
010906102	R2104341863288	SIMSK	00001	EA	SILENCER,EXHAUST
010931696	R2104341486159	STOCK	00001	EA	REGULATOR,PRESSUR
010932151	R2104341486160	STOCK	00001	EA	UNION,CELL GLAND

011001657	R2104341866180	STOCK	00001	EA	POWER SUPPLY
011001657	R2104341866179	STOCK	00001	EA	POWER SUPPLY
011002540	R2104341863362	STOCK	00001	EA	LIGHT EMITTING DIOD
011007661	R2104341486145	STOCK	00001	EA	INDICATOR ASSEMBLY
011027723	R2104341473022	STOCK	00001	EA	COIL,ELECTRICAL
011082589	R2104341863290	SIMSK	00002	EA	FILTER ELEMENT,FLUI
011082589	R2104341472971	SIMSK	00002	EA	FILTER ELEMENT,FLUI
011128105	R2104341473024	STOCK	00003	EA	PIN,STRAIGHT,HEADLE
011137814	R2104341473025	STOCK	00003	EA	BUSHING,SLEEVE
011141332	R2104341472972	SIMSK	00001	EA	TUBING,NONMETALLIC
011154404	R2104341866183	STOCK	00001	EA	TRANSDUCER
011174782	R2104341863291	SIMSK	00001	EA	CONTROL,TEMPERATU
011209366	R2104341473026	STOCK	00001	EA	CAP,PROTECTIVE,DUST
011216309	R2104341643190	STOCK	00001	EA	VALVE,CHECK
011216309	R2104341863293	SIMSK	00001	EA	VALVE,CHECK
011222472	R2104341863294	SIMSK	00001	AY	PACKING ASSEMBLY
011264517	R2104341583160	NEE01	00001	EA	SWITCH,THERMOSTATI
011276057	R2104341473047	NWF01	00001	EA	SWITCH,PRESSURE
011451091	R2104341473027	STOCK	00001	EA	SEAL
011482691	R2104341863295	SIMSK	00002	EA	PACKING,PREFORMED
011482691	R2104341472973	SIMSK	00002	EA	PACKING,PREFORMED
011500962	R2104341863296	SIMSK	00001	EA	FLOAT,VALVE
011500962	R2104341663210	SIMST	00001	EA	FLOAT,VALVE
011500962	R2104341643177	SIMSK	00001	EA	FLOAT,VALVE
011507743	R2104341863363	STOCK	00002	EA	RETAINER,PACKING
011581232	R2104341863297	SIMSK	00002	EA	HEADSET,ELECTRICAL
011601672	R2104341583157	SEM01	00001	EA	STRAINER ELEMENT,SE
011601672	R2104341583142	STOCK	00001	EA	STRAINER ELEMENT,SE
011625621	R2104341472974	SIMSK	00001	EA	SEAL
011813306	R2104341583119	SIMSK	00001	EA	LAMPDRIVER
011813306	R2104341863299	SIMSK	00003	EA	LAMPDRIVER
011813360	R2104341472975	SIMSK	00001	EA	SWITCH,PUSH
011885418	R2104341663211	SIMST	00002	RO	PAPER,FILTER
012063848	R2104341663212	SIMST	00002	EA	FILTER ELEMENT,INTA
012063848	R2104341863300	SIMSK	00001	EA	FILTER ELEMENT,INTA
012063848	R2104341472976	SIMSK	00004	EA	FILTER ELEMENT,INTA
012124623	R2104341863302	SIMSK	00004	EA	PACKING,PREFORMED
012124623	R2104341863301	SIMSK	00002	EA	PACKING,PREFORMED
012124624	R2104341472977	SIMSK	00004	EA	PACKING,PREFORMED
012124624	R2104341863303	SIMSK	00003	EA	PACKING,PREFORMED
012136039	R2104341663213	SIMST	00005	EA	FILTER,MOTOR GENER
012136039	R2104341863304	SIMSK	00005	EA	FILTER,MOTOR GENER
012136039	R2104341472978	SIMSK	00005	EA	FILTER,MOTOR GENER
012217403	R2104341863365	STOCK	00001	EA	CELL,GATE VALVE
012307691	R2104341643193	STOCK	00006	EA	GASKET
012339646	R2104341663228	STOCK	00001	EA	ANTENNA
012391273	R2104341473031	SIMSK	00001	EA	GASKET
012415217	R2104341523104	STOCK	00002	EA	VALVE,REGULATING,FL

012824549	R2104341486148	STOCK	00001	EA	CIRCUIT CARD ASSEMB
012833151	R2104341583143	STOCK	00001	EA	STEM,FLUID VALVE
012837782	R2104341472979	SIMSK	00003	EA	PACKING,PREFORMED
013224518	R2104341583161	NWQ01	00001	EA	SWITCH,PUSH
013224923	R2104341583162	NWQ01	00001	EA	SWITCH,PUSH
013230301	R2104341663230	NEM01	00001	EA	VALVE,REGULATING,FL
013240143	R2104341643174	SIMSK	00002	EA	GASKET,SPIRAL WOUN
013240143	R2104341663216	SIMST	00002	EA	GASKET,SPIRAL WOUN
013460491	R2104341583144	STOCK	00001	EA	GASKET,SPIRAL WOUN
013478151	R2104341473028	STOCK	00005	EA	GASKET
013569472	R2104341473029	STOCK	00004	EA	PACKING,PREFORMED
013769670	R2104341583158	SEM01	00005	EA	GASKET
013829208	R2104341863277	SIMSK	00002	PG	BATTERY,NONRECHAR
001260877	R210434181W238	SEA01	00009	EA	
001270307	R210434181W236	SEA01	00009	EA	
001675174	R2104341643171	SIMSK	1		
002009642	R210434181W234	SEA01	00009	EA	
002093484	R210434181W235	SEA01	00007	EA	
002417464	R210434181W237	SEA01	00009	EA	
006045836	R210434181W233	SEA01	00010	EA	
007811897	R210434181W232	SEA01	00010	EA	
010610204	R2104341663225	see01	1		
010804509	R2104341643188	STOCK	1	EA	

APPENDIX (G)

730 Stock Numbered Sequence List

9C	4540008521167HEATIN	EA	11407		T432100002	M10002	R	21040
9N	5990008522369SYNCHR	EA	69707		T271010499	M10001	R	21040
9N	5990008522369SYNCHR	EA	69707		T389990031	T10000	R	21040
9N	5990008522369SYNCHR	EA	69707		T389990032	T10000	R	21040
9N	5990008522369SYNCHR	EA	69707		T389990034	T10000	R	21040
9N	5990008522369SYNCHR	EA	69707		T4170103	T10000	R	21040
9N	5990008522369SYNCHR	EA	69707		T870010151	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T4410505PA	M10002	R	21040
9N	5930008522407SWITCH	EA	1745		T4410545PA	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T4411525	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T4412905	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T4720530	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503091380	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503091381	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503091383	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503091430	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503820002	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503820003	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T503820004	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T509990860	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T509991071	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T611830002	T10000	R	21040
9N	5930008522407SWITCH	EA	1745		T616640006	T10000	R	21040
9N	5905008530154RESIST	EA	278		T503091280	M10001	R	21040
9N	5905008530154RESIST	EA	278		T503091281	T10000	R	21040
9Z	5330008532379O-RING	EA	5	E	T016021461	M10012	R	21040
9Z	5330008532379O-RING	EA	5		T061900379	T10000	R	21040
9Z	5330008532379O-RING	EA	5		T759990539	T10000	R	21040
9Z	5330008532379O-RING	EA	5	A	T883000393	T10000	R	21040
9Z	5330008532379O-RING	EA	5		T883118605	T10000	R	21040
9C	4320008534071SEAL A	EA	45640		T016161005	M10003	R	21040
9Z	5330008534152SPACER	EA	77		T887355295	M10002	R	21040
9N	5935008537596CONNEC	EA	107		T4170102	M10001	R	21040
9N	5935008537596CONNEC	EA	107		T4550000	T10000	R	21040
9N	5935008537596CONNEC	EA	107		T4600500	T10000	R	21040
9N	5935008537596CONNEC	EA	107		T4603001	T10000	R	21040
9Z	5330008539326PACKIN	EA	130		T701110404	M10001	R	21040
9N	6625008542300AMMETE	EA	3343		T4600530	M10001	R	21040
9C	2815008544134RACE,I	EA	22032		T810030012	M10002	R	21040
9Z	5330008553430RETAIN	EA	8		T882352410	M10012	R	21040
9Z	5330008553430RETAIN	EA	8		T882352434	T10000	R	21040
9Z	5330008553430RETAIN	EA	8		T882352443	T10000	R	21040

APPENDIX (H)

730 SNSL Allowance Reductions

	niin	cost	snsl	five	ten	fifteen	twenty
1	000012788	1.36	1.00	1.00	1.00	1.00	1.00
2	000014194	18.12	1.00	1.00	1.00	1.00	1.00
3	000014322	2340.00	1.00	1.00	1.00	1.00	1.00
4	000017829	11.66	10.00	10.00	9.00	9.00	8.00
5	000018826	102.23	1.00	1.00	1.00	1.00	1.00
6	000030676	24.68	2.00	2.00	2.00	2.00	2.00
7	000030678	1.85	1.00	1.00	1.00	1.00	1.00
8	000031201	1774.50	1.00	1.00	1.00	1.00	1.00
9	000032547	9.77	1.00	1.00	1.00	1.00	1.00
10	000035490	.92	8.00	8.00	8.00	7.00	7.00
11	000035491	.47	3.00	3.00	3.00	3.00	3.00
12	000035722	97.17	1.00	1.00	1.00	1.00	1.00
13	000035845	38.35	11.00	11.00	10.00	10.00	9.00
14	000035919	1.08	2.00	2.00	2.00	2.00	2.00
15	000036674	.10	1.00	1.00	1.00	1.00	1.00
16	000038722	5.20	1.00	1.00	1.00	1.00	1.00
17	000039271	.71	18.00	18.00	17.00	16.00	15.00
18	000039444	6.00	1.00	1.00	1.00	1.00	1.00
19	000039459	1.11	1.00	1.00	1.00	1.00	1.00
20	000042054	9.54	1.00	1.00	1.00	1.00	1.00
21	000043099	.20	2.00	2.00	2.00	2.00	2.00
22	000043324	6.45	40.00	38.00	36.00	34.00	32.00
23	000043333	456.49	1.00	1.00	1.00	1.00	1.00
24	000043414	2.72	1.00	1.00	1.00	1.00	1.00
25	000044583	305.00	1.00	1.00	1.00	1.00	1.00
26	000047760	7.07	28.00	27.00	26.00	24.00	23.00
27	000047763	8.15	64.00	61.00	58.00	55.00	52.00
28	000047764	32.33	1.00	1.00	1.00	1.00	1.00
29	000048097	35.29	1.00	1.00	1.00	1.00	1.00
30	000048098	25.95	1.00	1.00	1.00	1.00	1.00
31	000048099	19.19	1.00	1.00	1.00	1.00	1.00
32	000048282	34.76	2.00	2.00	2.00	2.00	2.00
33	000050482	.91	3.00	3.00	3.00	3.00	3.00

APPENDIX (I)

OM&N Savings Computations For The ARF SNSL

COST	SNSL	FIVE	TEN	FIFT	TWEN	SNSL VALUE	FIVE VALU	TEN VALU	FIFT VALU	TWEN VALUE
1812	1	1	1	1	1	18.12	18.12	18.12	18.12	18.12
193000	1	1	1	1	1	1930.00	1930.00	1930.00	1930.00	1930.00
21	1	1	1	1	1	0.21	0.21	0.21	0.21	0.21
981	10	10	9	9	8	98.10	98.10	88.29	88.29	78.48
564	2	2	2	2	2	11.28	11.28	11.28	11.28	11.28
124	1	1	1	1	1	1.24	1.24	1.24	1.24	1.24
852	1	1	1	1	1	8.52	8.52	8.52	8.52	8.52
40	8	8	8	7	7	3.20	3.20	3.20	2.80	2.80
39	3	3	3	3	3	1.17	1.17	1.17	1.17	1.17
3856	3	3	3	3	3	115.68	115.68	115.68	115.68	115.68
72	2	2	2	2	2	1.44	1.44	1.44	1.44	1.44
1050	1	1	1	1	1	10.50	10.50	10.50	10.50	10.50
71	10	10	9	9	8	7.10	7.10	6.39	6.39	5.68
297	1	1	1	1	1	2.97	2.97	2.97	2.97	2.97
91	1	1	1	1	1	0.91	0.91	0.91	0.91	0.91
954	1	1	1	1	1	9.54	9.54	9.54	9.54	9.54
20	2	2	2	2	2	0.40	0.40	0.40	0.40	0.40
682	40	38	36	34	32	272.80	259.16	245.52	231.88	218.24
23553	1	1	1	1	1	235.53	235.53	235.53	235.53	235.53
352	1	1	1	1	1	3.52	3.52	3.52	3.52	3.52
30500	1	1	1	1	1	305.00	305.00	305.00	305.00	305.00
607	28	27	26	24	23	169.96	163.89	157.82	145.68	139.61
701	64	61	58	55	52	448.64	427.61	406.58	385.55	364.52
2886	1	1	1	1	1	28.86	28.86	28.86	28.86	28.86
2086	1	1	1	1	1	20.86	20.86	20.86	20.86	20.86
1760	1	1	1	1	1	17.60	17.60	17.60	17.60	17.60
3191	1	1	1	1	1	31.91	31.91	31.91	31.91	31.91
91	1	1	1	1	1	0.91	0.91	0.91	0.91	0.91
5500	6	6	6	6	5	330.00	330.00	330.00	330.00	275.00
316	3	3	3	3	3	9.48	9.48	9.48	9.48	9.48
Total Cost / Allowance Level						**$21,654,353.80**	**$21,567,550.09**	**$21,431,815.71**	**$21,286,324.65**	**$21,071,586.06**
Total Savings / Allowance Level							**$ 86,803.71**	**$ 220,538.09**	**368,029.15**	**$ 582,767.74**

APPENDIX (J)

Additional NIS Summary

USS Michigan SSBN 727

604 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
00 020 0186	42	16	16	15	14	13
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 597 6098	12	12	12	**11**	**11**	**10**
00 872 6375	5	5	5	5	5	**4**
01 070 4557	6	6	6	6	6	**5**
01 074 5503	8	8	8	8	**7**	**7**
00 035 7535	16	17	17	16	**15**	**14**
00 171 9225	40	46	44	42	40	**37**
00 270 4698	40	42	40	**38**	**36**	**34**
00 689 6461	12	12	12	**11**	**11**	**10**
00 689 6462	11	10	10	9	9	8
01 021 1790	14	14	14	**13**	**12**	**12**

Additional NIS Summary

USS Florida SSBN 728

958 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
00 148 3835	12	12	12	**11**	**11**	**10**
00 163 4113	6	6	6	6	6	**5**
00 165 1940	99	90	86	81	77	72
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 171 6649	14	14	14	**13**	**12**	**12**
00 890 3412	5	5	5	5	5	**4**
01 074 5563	8	8	8	8	**7**	**7**
01 081 1877	50	42	40	38	36	34
01 117 4731	8	6	6	6	6	5
00 064 6507	10	8	8	8	7	7
00 143 3060	30	16	16	15	14	13
00 148 3835	16	12	12	11	11	10
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 299 5962	80	80	**76**	**72**	**68**	**64**
00 519 6130	30	28	27	26	24	23
00 539 7013	20	15	15	14	13	12
00 763 7744	400	181	172	163	154	145
00 853 2379	19	12	12	11	11	10
01 067 1505	8	8	8	8	**7**	**7**
01 081 1877	43	42	40	38	36	34
01 213 6039	55	45	43	41	39	36
00 228 5663	8	8	8	8	**7**	**7**
00 449 6001	6	5	5	5	5	4
01 007 5990	9	7	7	7	6	6
01 061 2866	8	8	8	8	**7**	**7**
01 164 0636	8	8	8	8	**7**	**7**

Additional NIS Summary

USS Georgia SSBN 729

669 Reqn's

NIIN	Deman	SNSL	5%	10%	15%	20%
00 003 5490	8	8	8	8	**7**	**7**
00 050 0915	10	10	10	**9**	**9**	**8**
00 155 7857	30	20	19	18	17	16
00 166 8422	66	66	**63**	**60**	**57**	**54**
00 235 5555	6	6	6	6	6	**5**
00 252 3391	6	6	6	6	6	**5**
00 254 9287	9	9	9	9	**8**	**8**
00 299 5546	22	5	5	5	5	4
00 299 5962	380	80	76	72	68	64
00 559 3267	5	5	5	5	5	**4**
00 597 6098	16	12	12	11	11	10
00 689 6461	12	12	12	**11**	**11**	**10**
00 689 6462	11	10	10	9	9	8
00 703 4456	23	12	12	11	11	10
00 776 7208	20	16	16	15	14	13
00 829 8740	25	6	6	6	6	5
01 206 3848	12	12	12	**11**	**11**	**10**
00 200 186	39	16	16	15	14	13
00 142 9037	24	10	10	9	9	8
00 163 4113	6	6	6	6	6	**5**
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 597 6098	12	12	12	**11**	**11**	**10**
00 689 6438	13	13	13	**12**	**12**	**11**
00 702 4297	12	12	12	**11**	**11**	**10**
00 764 8237	6	6	6	6	6	**5**
00 829 8740	6	6	6	6	6	**5**
00 838 9773	10	10	10	**9**	**9**	**8**
00 850 7787	32	32	**31**	**29**	**28**	**26**
01 081 1877	39	42	40	**38**	**36**	**34**
01 085 3721	46	53	51	48	46	**43**
01 117 4731	6	6	6	6	6	**5**
01 315 1124	18	18	18	**17**	**16**	**15**
00 269 0964	9	10	10	9	9	**8**

Additional NIS Summary

USS H M Jackson SSBN 730

446 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
01 164 0636	8	8	8	8	**7**	**7**
00 152 2992	168	40	38	36	34	32
00 152 2993	216	71	68	64	61	57
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 299 2884	20	20	**19**	**18**	**17**	**16**
00 299 5962	238	80	76	72	68	64
00 311 6328	80	96	92	87	82	**77**
00 539 7013	15	15	15	**14**	**13**	**12**
00 727 2457	11	9	9	9	8	8
00 776 7208	16	16	16	**15**	**14**	**13**
00 985 7845	31	15	15	14	13	12
01 043 8511	8	6	6	6	6	5

Additional NIS Summary

USS Alabama SSBN 731

633 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
00 152 2992	40	40	**38**	**36**	**34**	**32**
00 166 8412	24	24	**23**	**22**	**21**	**20**
00 258 4449	8	8	8	8	**7**	**7**
00 299 5546	8	5	5	5	5	4
00 299 5962	80	80	**76**	**72**	**68**	**64**
00 519 7733	7	7	7	7	**6**	**6**
00 764 8237	6	6	6	6	6	**5**
00 060 2941	14	14	14	**13**	**12**	**11**
00 152 2993	120	71	68	64	61	57
00 155 7857	100	20	19	18	17	16
00 171 6695	15	16	16	15	**14**	**13**
00 217 0133	12	12	12	**11**	**11**	**10**
00 299 5962	345	80	76	72	68	64
00 521 9820	8	8	8	8	**7**	**7**
00 538 5472	6	6	6	6	6	**5**
00 578 0023	21	11	11	10	10	9
00 682 3411	30	35	34	32	30	**28**
00 763 7744	243	181	172	163	154	145
00 764 8237	23	6	6	6	6	5
00 776 7208	16	16	16	**15**	**14**	**13**
00 823 0751	7	7	7	7	**6**	**6**
01 059 2634	6	6	6	6	6	**5**
01 074 5503	8	8	8	8	**7**	**7**
01 085 3721	53	53	**51**	**48**	**46**	**43**
01 117 4731	6	6	6	6	6	**5**
01 368 7331	7	7	7	7	**6**	**6**

Additional NIS Summary

USS Alaska SSBN 732

436 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
00 019 0679	6	6	6	6	6	**5**
00 252 3391	6	6	6	6	6	**5**
00 559 3267	5	5	5	5	5	**4**
00 703 4456	16	12	12	11	11	10
00 763 7744	350	181	172	163	154	145
00 813 6055	16	18	18	17	16	**15**
01 206 3848	15	12	12	11	11	10
00 064 6507	10	8	8	8	7	7
00 166 8412	47	24	23	22	21	20
00 200 9057	10	6	6	6	6	5
00 270 4698	42	42	**40**	**38**	**36**	**34**
00 338 1441	17	16	16	15	14	13
00 588 6707	160	160	**152**	**144**	**136**	**128**
00 599 9545	15	6	6	6	6	5
00 599 9546	12	6	6	6	6	5
00 641 1573	50	24	23	22	21	20
00 776 208	16	16	16	**15**	**14**	**13**
00 804 5695	13	9	9	9	8	8
01 067 3469	10	9	9	9	8	8
01 180 8957	7	6	6	6	6	5
01 368 7331	7	7	7	7	**6**	**6**
00 064 2570	27	32	31	29	28	**26**
00 165 1953	10	5	5	5	5	4
00 538 4292	12	12	12	**11**	**11**	**10**

Additional NIS Summary

USS Nevada SSBN 733

968 Reqn's

NIIN	Demand	SNSL	5%	10%	15%	20%
00 019 0679	6	6	6	6	6	**5**
00 064 6507	8	8	8	8	**7**	**7**
00 152 2993	264	71	68	64	61	57
00 163 4112	20	21	20	**19**	**18**	**17**
00 163 4113	6	6	6	6	6	**5**
00 163 4114	20	21	20	**19**	**18**	**17**
00 200 9057	8	6	6	6	6	5
00 299 5962	110	80	76	72	68	64
00 539 7013	50	15	15	14	13	12
00 595 0139	6	6	6	6	6	**5**
00 640 0238	6	6	6	6	6	**5**
00763 7744	160	181	172	163	**154**	**145**
01 094 5959	5	5	5	5	5	**4**
00 035 7535	16	17	17	16	**15**	**14**
00 165 1940	82	90	86	**81**	**77**	**72**
00 269 0964	9	10	10	9	9	**8**
00 299 5962	110	80	76	72	68	64
00 519 7733	7	7	7	7	**6**	**6**
00 538 4292	18	12	12	11	11	10
00 538 5471	12	13	13	12	12	**11**
00 584 1038	8	6	6	6	6	5
00 663 7152	8	8	8	8	**7**	**7**
00 702 1371	25	24	23	22	21	20
00 702 1665	8	8	8	8	**7**	**7**
00 763 7744	240	181	172	163	154	145
00 774 8237	10	6	6	6	6	5
00 776 7208	16	16	16	**15**	**14**	**13**
00 807 8427	16	16	16	**15**	**14**	**13**
00 829 8740	25	6	6	6	6	5
00 914 1118	5	5	5	5	5	**4**
00 954 0124	12	6	6	6	6	5
01 027 2296	25	12	12	11	11	10
01 085 3721	53	53	**51**	**48**	**46**	**43**
01 106 0942	10	10	10	**9**	**9**	**8**
01 359 4414	5	5	5	5	5	**4**

APPENDIX (K)

Part and Equipment/Component MEC Listing

USS Michigan SSBN 727

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
00 020 0186	Packing, Preformed	T061900379	HP Air Compressor	1	110
00 166 8412	Oring	T043025000	Unit Shells Sys 1	1	107
00 597 6098	Citric Acid, Monohyd	T990390005	CO2 Removal	1	110
00 872 6375	Gasket	T061900379	HP Air Compressor	1	110
01 070 4557	Ring, Packing	T061900379	HP Air Compressor	1	110
01 074 5503	Lamp, Incandescent	T4600500	AN BQQ6 sonar	1	110
00 035 7535	Wire, Non Electrical	T061900379	HP Air Compressor	1	110
00 171 9225	Retainer, Packing	None			
00 270 4698	Lamp, Incandescent	T111180001	440 Power Supply	1	116
00 689 6461	Retainer, Packing	T882183411	Solenoid Valve	1	116
00 689 6462	Packing, Preformed	T882183411	Solenoid Valve	1	116
01 021 1790	Nub, Valve	T061900379	HP Air Compressor	1	110
00 872 6375	Gasket	T061900379	HP Air Compressor	1	110

USS Florida SSBN 728

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
00 148 3835	Seal, Splash	T4600500	AN BQQ6 Sonar	1	110
00 163 4113	Fuse, Cartridge	T279990138	Intercom Power	1	116
00 165 1940	Packing	T882234799	Valve	1	95
00 166 8412	Packing	T040250001			107
00 171 6649	Packing	T-882039302	Check Valve	1	95
00 890 3412	Gasket	T990990496	AUX 1 cubicle	1	116
01 074 5563		T4600500	AN BQQ6 Sonar	1	110
01 081 1877	Air Filter, Glass	T181800138	500 KW Motor Gen	1	95
01 117 4731		T440210042	Dehydrator Filter	1	95
00 064 6507	Packing	None			N/A
00 143 3060	Lamp, Incandescent	None			N/A
00 148 3835	Seal, splash	None			N/A
00 166 8412	Packing	T043025001	Unit Shells	1	107
00 299 5962	Starter, Fluorescent	None			N/A
00 519 6130	Fuse, Cartridge	T89GEN3201			110
00 539 7013	Boot, Dust and Mois	T270180095	Terminal Station	7	95
00 763 7744	Lamp, Incandescent	T4600500	AN BQQ6 Sonar	1	110
00 853 2379	Packing	T483116608			95
01 067 1505	Bearing, Washer, Th	None			N/A
01 081 1877	Filter, Air	T181800138	500 KW motor Gen	1	95
01 213 6039	Filter, Motor, Generat	T181820051	70 KW Motor Gen	1	98
00 228 5663	Light, Indicator	T4120500FB			101
00 449 6001	Battery, Storage	100110001			95
01 007 5990	Parts Kit, Steam Tra	T770907033	Steam Trap	1	107
01 061 2866	Ring, Special	T01690379			110
01 164 0636	Seal	T0160021532			107
01 007 5990		T770907033			107

Part and Equipment/Component MEC Listing

USS Georgia SSBN 729

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
00 003 5490	Retainer, Packing	T440210042	Dehydrater Filter	1	95
00 050 0915	Battery, Non charge	8-SSBN726CL			95
00 155 7857	Lamp, Incandescent	None			N/A
00 166 8422	Packing, Preformed	T481960006	Filter	1	95
00 235 5555	Grease, General	None			N/A
00 252 3391	Sealing Compound	None			N/A
00 254 9287	Jack, Telephone	T89GEN4320	Telephone System	3	95
00 299 5546	Lamp, Fluorescent	T89GEN3300	Lighting System	1	95
00 299 5962	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 559 3267	Ion, Exchange C	T090690002	Ion Exchanger	1	95
00 597 6098	Citric Acid, monohyd	T990390005	CO2 Removal	1	110
00 689 6461	Retainer, packing	T882183411	Solenoid Valve	1	116
00 689 6462	packing, Preformed	T882183411	Solenoid Valve	1	116
00 703 4456	Brush, Electrical	T181800138	500 KW Motor Gen	1	95
00 776 7208	Brush, electrical	T171340955	DC Motor	1	101
00 829 8740	Cable, Safety	T270180095	Terminal Station	5	95
01 206 3848	Filter, Element Inta	T181820052	10 KW Motor Gen	1	95
00 020 0186	Packing, Preformed	T061900379	HP Air Compressor	1	110
00 142 9037	Paper, TeleTypewriter	T74414117			95
00 163 4113	Fuse, Cartridge	T509990859	Power Distr. Panel	1	116
00 166 8412	Packing, Preformed	T325060166	Dehydrator	1	95
00 597 6098	Citric Acid, Monohyd	T990390005	CO2 removal	1	110
00 689 6438	Dessicant, Activated	None			N/A
00 702 4297	Silicone compound	None			N/A
00 764 8237	Lamp, Incandescent	T503091463			101
00 829 8740	Cable, safety	T270180095	Terminal Station	5	95
00 838 9773	Retainer, packing	T88234724			N/A
00 850 7787	Potassium, Hydroxide	T990990483	Cell, Koncentric	1	116
01 081 1877	Filter, Air	T181800138	500 KW Motor Gen	1	95
01 085 3721	Kit, Replacement Air	T480850009	Filter, FD	1	95
01 117 4731	Seal	T440210042	Dehydrator Filter	1	95
01 315 1124	Lamp, Incandescent	T4120500			101
00 269 0964	Lamp, Incandescent	T140302088	Circuit Breaker	3	95

Part and Equipment/Component MEC Listing

USS H M Jackson SSBN 730

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
01 164 0636	Seal	T016021532			107
00 152 2992	Lamp, Fluorescent	T89GEN3300	Lighting System	1	95
00 152 2993	Lamp, fluorescent	T89GEN3300	Lighting System	1	95
00 166 8412	Packing, Preformed	T430270030			N/A
00 299 2884	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 299 5962	Starter, fluorescent	T89GEN3300	Lighting System	1	95
00 311 6328	Brush, Electrical Co	T181800138	500 KW Motor Gen	1	95
00 539 7013	Boot, dust and Moist	T89GEN3300	Lighting System	1	95
00 727 2457	Lamp, Incandescent	T4413508	Control Interface Unit	1	107
00 776 7208	Brush, Electrical, Co	T171340955	DC Motor	1	101
00 985 7845	Battery, Non Chargeab	280000232		1	95
01 043 8511	Penetrating Fluid	None			N/A

Part and Equipment/Component MEC Listing

USS Alabama SSBN 731

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
00 152 2992	Lamp, Fluorescent	T89GEN3300	Lighting System	1	95
00 166 8412	Packing	T043025000	Unit Shells	1	107
00 258 4449	Cover, Electrical Co	T4330005	Amplifier control	1	95
00 299 5546	Lamp, Fluorescent	T89GEN3300	Lighting System	1	95
00 299 5962	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 519 7733	Fuse, Cartridge	T252760098	Electrical Control	1	101
00 764 8237	Lamp, Incandescent	T005260006	Display Console	1	95
00 060 2941	Lamp, Incandescent	T4410530PA	Radio Receiver	1	
00 155 7857	Lamp, Incandescent	T501260009	Control Panel	1	104
00 171 6695	Retainer, Packing	T887305859	Ball Valve	1	98
00 217 0133	Gasket	T665360262	Diesel Engine	1	95
00 299 5962	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 521 9820	Element, Transmitter	T270180094	handset, Sound Pow	1	95
00 538 5472	Fuse, Cartridge	T151210184	AC Controller	1	98
00 578 0023	Wire, Assbly, IONIC	T480790068	Electrostatic Air Filte	1	98
00 682 3411	Lamp, Glow	T221520010	IC SwitchBoard	1	95
00 763 7744	Lamp, Incandescent	T503091366	Control Panel	1	95
00 764 8237	Lamp, Incandescent	T4413510PA			
00 776 7208	Brush, Electrical Co	T171340955	DC Motor	1	101
00 823 0751	Fuse, cartridge	T017710005	Portable Submer Pu	1	95
01 059 2634	Gasket	T061900379	HP Air	1	110
01 074 5503	Lamp, Incandescent	T4600500	AN BQQ6 Sonar	1	110
01 085 3721	Kit, replacement Air	T030480016	Cooler, FL	1	101
01 117 4731	Seal	T440210042	Dehydrator Filter	1	95
01 368 7331	Packing	T887045286	Gate Valve	1	98

Part and Equipment/Component MEC Listing

USS Alaska SSBN 732

NIIN	Nomenclature	APL	Equip./Component	PMEC	EQUIP. MEC
00 019 0679	Packing	T319990067	Grounding Device	1	116
00 252 3391	Screw, Cap, Socket HE	None			N/A
00 559 3267	Clutch Half, Positiv	None			N/A
00 703 4456	Brush, Electrical	T181820052	10 KW Motor Gen	1	95
00 763 7744	Float Value	T503091333	Panel, sws	1	98
00 813 6055	Guide + bushing	T032145001	Cooler, FL	1	95
01 206 3848	Filter Element	T181820052	10 KW Motor Gen	1	95
00 064 6507	Packing	T89GEN3300	Lighting System	1	95
00 166 8412	Packing	T043025000	Unit Shells	1	107
00 200 9057	Valve Seal	T882303545	700 PSI valve	1	101
00 270 4698	Packing, Assembly	T619880006	Control Drawer	1	116
00 338 1441	Packing, Preformed	T98GEN551A	HP Air System	1	110
00 588 6707	Seal Ring	T990990493	Cell Area Koncentric	1	116
00 599 9545	Packing Material	T887055403	Globe Valve	1	95
00 599 9546	Packing material	T887055398	Globe Valve	1	95
00 641 1573	Valve, Assembly	None			N/A
00 776 7208	Brush, Electrical	T171340955	Motor, DC	1	101
00 804 5695	Lamp, Incandescent	T481610007	Filter, FD Pres	1	95
01 067 3469	Gasket	T882210146	Valve	1	101
01 180 8957	Hose, Air Duct, Air B	T270180094	Handset Sound Power	1	95
01 368 7331	Packing, Preformed	T887045286	Gate Valve	1	98
00 064 2570	Heating Element	None			N/A
00 165 1953	Switch, Pressure	T480065102	Filter, FD Pres	1	95
00 538 4292	Brush, Electrical	T162900205	AC Generator	1	98

Part and Equipment/Component MEC Listing

USS Nevada SSBN 733

NIIN	Nomenclature	APL	Equip./Componen	PMEC	EQUIP. MEC
00 019 0679	Brush, Electrical	T319990067	Grounding Device	1	116
00 064 6507	Packing	T452130134	Indicator, SGT	1	107
00 152 2993	Lamp, Fluorescent	None			N/A
00 163 4112	Fuse, Cartridge	T509990855	Fuse Panel	1	95
00 163 4113	Fuse, Cartridge	T509990859	Power Dist Panel	1	116
00 163 4114	Fuse, Cartridge	T509990855	Fuse Panel	1	95
00 200 9057	Seal, Valve Stem	T882303545	700 PSI Valve	1	101
00 299 5962	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 539 7013	Boot, Dust and Moist	T270180095	Terminal Station	7	95
00 595 0139	Filter, Element, Air	T489980005	Filter	1	95
00 640 0238	Filter, Element, Air	T489980006	Air Conditioning Filt	1	95
00763 7744	Lamp, Incandescent	T4120000	Signal Data Conver	1	110
01 094 5959	Packing	None			N/A
00 035 7535	Wire, Non Electrical	T061900379	HP Air	1	110
00 165 1940	Packing	T889900513	Flow regulator Valv	1	110
00 269 0964	Lamp, Incandescent	T140302088	Circuit Breaker	3	110
00 299 5962	Starter, Fluorescent	T89GEN3300	Lighting System	1	95
00 519 7733	Fuse, Cartridge	T259390005	Power Supply	1	95
00 538 4292	Brush, Electrical Co	T162900205	AC Generator	1	98
00 538 5471	Fuse, Cartridge	T221250141	Switch Board	1	98
00 584 1038	Packing	T883116116	Relief Valve	1	95
00 663 7152	Retainer, Packing	T882303914	3 Way ball valve	1	98
00 702 1371	Anode, Corrosion Pre	T032195000	Cooler, FL	1	95
00 702 1665	Anode, Corrosion Pre	T040285102	Main Condensor	3	107
00 763 7744	Lamp, Incandescent	T4416500			101
00 764 8237	Lamp, Incandescent	T503091382			95
00 776 7208	Brush, Electrical Co	T171340955	DC Motor	1	101
00 807 8427	Brush, Electrical Co	T181800138	500 kw motor gen	1	95
00 829 8740	Cable, Safety	T270180095	Terminal Station	5	95
00 914 1118	Packing	T990990493	Cell Area, Koncentr	1	116
00 954 0124	Lamp, Incandescent	T9903900006	CO2 Removal	1	110
01 027 2296	Hose, Air Duct	T040285102	Main condensor		107
01 085 3721	Kit, Replacement Air	T480850009	Filter, FD	1	95
01 106 0942	Packing	T440210042	Dehydrator filter	1	95
01 359 4414	Stud, continuous Thre	None			N/A

APPENDIX (L)

FY 94 Gross Effectiveness Summary

Submarine	Base Gross Eff	5%	Percent Change	10%	Percent Change	15%	Percent Change	20%	Percent Change
Michigan (SSBN 727)	91.82	91.00	-0.89	90.19	-1.77	89.91	-2.00	89.91	-2.00
	92.80	92.40	-0.43	92.00	-0.86	91.60	-1.29	90.80	-2.15
Florida (SSBN 728)	96.16	95.47	-0.71	94.77	-1.44	94.42	-1.80	93.72	-2.53
	95.12	95.12	0.00	95.12	0.00	93.90	-1.28	93.90	-1.28
Georgia (SSBN 729)	97.21	96.65	-0.57	94.98	-2.29	94.98	-2.29	93.59	-3.72
	95.80	95.48	-0.33	94.51	-1.34	93.87	-2.01	92.90	-3.02
Jackson (SSBN 730)	92.80	91.92	-0.94	91.03	-1.61	91.03	-1.61	90.58	-2.39
	96.86	96.86	0.00	96.86	0.00	96.41	-0.46	96.41	-0.46
Alabama (SSBN 731)	85.28	85.01	-0.31	84.19	-1.27	82.83	-2.87	81.74	-4.15
	85.30	84.21	-1.27	84.21	-1.27	83.45	-2.16	83.08	-2.60
Alaska (SSBN 732)	94.25	93.48	-0.81	92.72	-1.62	92.33	-2.03	91.95	-2.44
	96.57	96.57	0.00	96.57	0.00	96.57	0.00	94.28	-2.37
Nevada (SSBN 733)	91.89	91.89	0.00	91.47	-0.45	91.06	-0.90	90.02	-2.03
	92.25	91.98	-0.33	90.69	-1.69	89.92	-2.52	88.88	-3.65
Averages	93.15	92.72	**-0.46**	92.09	**-1.15**	91.59	**-1.73**	90.84	**-2.59**

APPENDIX (M)

Military Essentiality Codes For Each Trident

Command	MEC	5%	10%	15%	20%	Total
Michigan	116		2			2
	110		2	1		3
	107	1		1	2	4
	104					0
	101					0
	98					0
	95			1		1
Georgia	116		1			1
	110		1			1
	107					0
	104					0
	101		1		1	2
	98					0
	95	2	2	2	3	9
Alabama	116					0
	110					0
	107	1			1	2
	104					0
	101	1	1	1		3
	98			2	1	3
	95	2	1	3	4	10
Nevada	116					0
	110		1	1		2
	107			3		3
	104					0
	101		1			1
	98			1	1	2
	95	1	4	2	5	12

Command	MEC	5%	10%	15%	20%	Total
Florida	116					0
	110		1	1		2
	107	2		2		4
	104					0
	101			1		1
	98					0
	95		1	1	1	3
Jackson	116					0
	110					0
	107			1		1
	104					0
	101		1			1
	98					0
	95	1	1		1	3
Alaska	116	1				1
	110					0
	107					0
	104					0
	101	1				1
	98		1	1		2
	95				2	2

APPENDIX (N)

Example Allowance Parts List

EQUIPMENT/COMPONENT NOMENCLATURE/CHARACTERISTICS: CONTROL DRAWER A-3 908D723G01

TECHNICAL DOCUMENT NUMBER: MANUAL S9515-AA-MMO-030 PLAN

IDENTIFICATION NO: T619880006 DATE: 06-30-94 PAGE: 1

ON BOARD ALLOWANCE TABLE — NUMBER OF EQUIPMENT/COMPONENTS

MFR-TREADWELL CORP
NAVCOM PLAN-
MFR DWG-908D723
MFR ID-908D723G01
PATTERN NO-93
EQUIP SPEC-
NSN-4Y5975-01-087-7584VN
LAPL-99-A07, SEE NOTE BELOW
TYPE-6L16, A-3 L.H. CONTROL BAR
PDCN-QA011G
NOTE-THIS APL SUPPORTS OXYGEN AND/OR NITROGEN GENERATING EQUIPMENT IN ACCORDANCE WITH LEAD ALLOWANCE PARTS LIST (LAPL) 16-009. THE CODING OF PIECE PARTS AND ALLOWANCE QUANTITIES ARE NOT TO BE CHANGED OR ALTERED WITHOUT THE APPROVAL OF NAVSEALOGSUPENGACT OR NAVSEA.
EIC-TG01
THIS RIC IS TRIPER ITEM NUMBER 054
FSCM-81412
CCF DATE - 08 83

ABA-8	08730	HANDLE,BOW	9Z	5340-00-456-2611	1PA0ZZ	1EA#	1	1	1	1	1	1	1
CM8-967	71744	LAMP,INCANDESCENT	9G	6240-00-939-7859	1PA3ZZ	6EA#	10	15	19	23	32	54	101
MS35058-31	96906	SWITCH,TOGGLE	9N	5930-00-655-1523	1PA3ZZ	8EA#	1	1	1	1	2	3	4
RA20LASB501A	81349	RESISTOR-VAR WW	9N	5905-00-660-3641	1PA0ZZ	12EA#	1	1	1	1	1	2	3
RECPSGF29FS80	97954	CONNECTOR,RECEPTACL	9N	5935-01-104-7257	1PA3ZZ	12EA#	1	1	1	1	1	1	2
REM1104F1HRSLGFS80	97954	CONNECTOR-RCPTL ELECL	9N	5935-00-225-8915	1PA3ZZ	1EA#	1	1	1	1	1	1	1
REM1104M1SLFS80	97954	CONNECTOR-PG ELECL	9N	5935-00-225-8918	1PA3ZZ	1EA#	1	1	1	1	1	1	1
REM150F2KFS80	97954	CONNECTOR-RCPTL ELECL	9N	5935-00-225-8941	1PA3ZZ	6EA#	1	1	1	1	1	1	1
REM175M2SLFS80	97954	CONNECTOR-PG ELECL	9N	5935-00-225-8952	1PA3ZZ	2EA#	1	1	1	1	1	1	1
1N3190	81349	SEMICONDUCTOR DEVIC	9N	5961-00-883-4798	1PA0ZZ	5EA#	1	1	1	2	2	3	5
1N540	09213	SEMICONDUCTOR DEVIC	9N	5961-00-978-7660	1PA3ZZ	3EA#	1	1	1	1	1	2	3
196A950G01	01411	AMPLIFIER-MAG LVL	9N	5950-00-574-3613	1PA3ZZ	6EA#	1	1	1	1	1	1	2
1969A22G01	01411	LAMPHOLDER ASSEMBLY	9G	6250-01-135-3877	1PA0ZZ	3EA#	1	1	1	1	1	1	1
29-00353	81412	LAMPHOLDER	9G	6250-01-169-7988	1PA0ZZ	1EA#	1	1	1	1	1	1	1
335	71744	LAMP, MIDGET, SCREW	9G	6240-00-270-4698	1PA0ZZ	64EA#	13	20	26	31	45	76	145
485A396H02	11660	LENS-IND LGT GRN	9G	6210-00-577-3366	1PA3ZZ	11EA#	1	1	1	1	1	2	3
485A396H04	11660	LENS-IND LGT RED	9G	6210-00-539-9705	1PA3ZZ	24EA#	1	1	1	1	2	2	4
76-2201-48805-1	04426	SWITCH,PUSH	9N	5930-00-088-2593	1PA3ZZ	3EA#	1	1	1	1	1	3	4
8498K1	15605	GUARD,SWITCH	9N	5930-00-945-3356	1PA3ZZ	8EA#	1	2	2	2	3	4	7
908D723G01TR	03950	DRAWER A3	4YX	5975-01-087-7584VN	1PAGLL	1EA							

IPSI-4919
AC 214-680-0188

REFERENCE SYMBOL NUMBER	ITEM NAME	STOCK NUMBER	UOA	1	2	3	4	5-8	9-20	21-50
	TRIDENT 116	ALLOWANCE PARTS LIST (APL)	PROVISIONING							

SHIP TYPE & HULL NO	PAGE	IDENTIFICATION NO	DATE	PAGE
		T619880006	06-30-94	1

APPENDIX (O)

NO-HIT DECK ZERO DEMAND COST SUMMARY

NIIN	Cost	Qty	Extended Cost	NIIN	Cost	Qty	Extended Cost
000012788	1.36	1.00	$1.36	002330859	0.80	1.00	$0.80
000018826	102.23	1.00	$102.23	002333639	0.27	1.00	$0.27
000030676	24.68	2.00	$49.36	002335037	11.21	4.00	$44.84
000030678	1.85	1.00	$1.85	002341856	1.09	2.00	$2.18
000031201	1774.50	1.00	$1,774.50	002341863	1.32	2.00	$2.64
000032547	9.77	1.00	$9.77	002343938	198.84	2.00	$397.68
000035722	97.17	1.00	$97.17	002349659	4.59	1.00	$4.59
000036674	0.10	1.00	$0.10	002350111	14.58	4.00	$58.32
000038722	5.20	1.00	$5.20	002350174	69.40	1.00	$69.40
000039271	0.71	18.00	$12.78	002351775	0.64	20.00	$12.80
000039444	6.00	1.00	$6.00	002353226	3.60	3.00	$10.80
000042054	9.54	1.00	$9.54	002355581	52.93	1.00	$52.93
000043099	0.20	2.00	$0.40	002355630	0.87	1.00	$0.87
000043333	456.49	1.00	$456.49	002358678	0.49	1.00	$0.49
000043414	2.72	1.00	$2.72	002361322	0.41	1.00	$0.41
000044583	305.00	1.00	$305.00	002365662	25.99	1.00	$25.99
000048098	25.95	1.00	$25.95	002368359	2.44	1.00	$2.44
000048099	19.19	1.00	$19.19	002368382	35.19	1.00	$35.19
000050482	0.91	3.00	$2.73	002368740	0.46	1.00	$0.46
000053190	63.98	6.00	$383.88	002368745	3.88	3.00	$11.64
000053191	1103.84	1.00	$1,103.84	002368767	4.08	1.00	$4.08
000053196	23.57	1.00	$23.57	002369503	13.15	1.00	$13.15
000055820	2.99	3.00	$8.97	002372384	0.67	3.00	$2.01
000057888	3.77	2.00	$7.54	002374781	5.54	3.00	$16.62
000058227	0.05	4.00	$0.20	002375674	4.89	1.00	$4.89
000058911	1.32	1.00	$1.32	002380649	3.01	2.00	$6.02
000059002	73.00	1.00	$73.00	002390189	3.32	3.00	$9.96
000060082	33.74	1.00	$33.74	002393338	0.12	7.00	$0.84
000061598	870.39	1.00	$870.39	002395361	1.58	2.00	$3.16
000062250	5.92	3.00	$17.76	002395676	5.62	1.00	$5.62
000064827	0.61	1.00	$0.61	002395792	384.69	6.00	$2,308.14
000065494	0.29	1.00	$0.29	002395794	572.10	1.00	$572.10
000065574	0.24	5.00	$1.20	002397821	0.54	5.00	$2.70
000068141	0.44	4.00	$1.76	002398019	1.18	1.00	$1.18
000068351	6.97	96.00	$669.12	002398032	5.84	1.00	$5.84
000069028	18.32	2.00	$36.64	002400097	6.91	1.00	$6.91
000069028	18.32	1.00	$18.32	002400207	2.63	1.00	$2.63
000071312	18.74	1.00	$18.74	002402260	39.45	1.00	$39.45
000072002	0.41	1.00	$0.41	002403015	1.32	1.00	$1.32
000072003	0.72	1.00	$0.72	002403016	1.30	1.00	$1.30
000072004	0.78	1.00	$0.78	002404114	0.28	1.00	$0.28

000077455	9.14	1.00	$9.14	002419761	33.03	4.00	$132.12
000077607	48.25	1.00	$48.25	002421991	4.62	2.00	$9.24
000077906	1.25	43.00	$53.75	002424064	1.85	1.00	$1.85
000082134	4.73	2.00	$9.46	002429778	2.88	1.00	$2.88
000082135	160.84	2.00	$321.68	002430148	44.02	1.00	$44.02
000082136	462.83	2.00	$925.66	002430567	2.45	1.00	$2.45
000082137	9.48	2.00	$18.96	002431213	666.12	1.00	$666.12
000082138	2.66	8.00	$21.28	002432933	68.75	1.00	$68.75
000082139	9.87	2.00	$19.74	002433788	0.20	8.00	$1.60
000082140	9.44	2.00	$18.88	002436500	0.11	3.00	$0.33
000082142	8.48	1.00	$8.48	002439964	10.18	2.00	$20.36
000082143	0.83	36.00	$29.88	002439964	10.18	1.00	$10.18
000082144	8.11	12.00	$97.32	002446205	14.22	1.00	$14.22
000082145	17.17	1.00	$17.17	002448258	0.19	1.00	$0.19
000089784	10.07	9.00	$90.63	002452125	1170.00	1.00	$1,170.00
000093037	18.65	1.00	$18.65	002453502	0.43	7.00	$3.01
000093942	0.92	1.00	$0.92	002453505	9.88	5.00	$49.40
000094467	10.70	1.00	$10.70	002457862	254.31	1.00	$254.31
000095253	63.61	1.00	$63.61	002460932	41.87	1.00	$41.87
000096417	1.34	2.00	$2.68	002462363	11.26	1.00	$11.26
000096742	20.35	1.00	$20.35	002462949	2.06	6.00	$12.36
000096747	15.04	1.00	$15.04	002465060	0.19	2.00	$0.38
000096817	0.23	1.00	$0.23	002472524	0.88	1.00	$0.88
000097673	4.12	1.00	$4.12	002475921	1.67	9.00	$15.03
000099170	7.07	2.00	$14.14	002478684	0.20	1.00	$0.20
000099952	0.36	2.00	$0.72	002478710	0.20	2.00	$0.40
000103867	0.08	1.00	$0.08	002478733	0.26	1.00	$0.26
000106652	0.09	1.00	$0.09	002478735	0.10	1.00	$0.10
000108157	1.80	1.00	$1.80	002479754	3.52	1.00	$3.52
000108159	0.41	1.00	$0.41	002481035	0.94	1.00	$0.94
000108184	11.39	1.00	$11.39	002483831	0.05	8.00	$0.40
000108538	1.06	2.00	$2.12	002483843	0.05	3.00	$0.15
000108666	0.27	11.00	$2.97	002485478	8.29	1.00	$8.29
000108715	0.30	1.00	$0.30	002486037	264.21	1.00	$264.21
000108717	0.25	55.00	$13.75	002487954	3.33	14.00	$46.62
000108718	0.31	1.00	$0.31	002490220	0.05	4.00	$0.20
000108721	0.81	1.00	$0.81	002497441	0.21	1.00	$0.21
000116690	21.02	1.00	$21.02	002498617	2.74	1.00	$2.74
000125588	0.20	1.00	$0.20	002500231	0.09	5.00	$0.45
000137786	1.20	1.00	$1.20	002505743	2.91	1.00	$2.91
000139783	45.85	1.00	$45.85	002507450	1.29	1.00	$1.29
000139863	10.28	1.00	$10.28	002513199	1.76	1.00	$1.76
000142870	21.97	1.00	$21.97	002513817	0.34	1.00	$0.34
000150526	13.43	1.00	$13.43	002516131	0.41	4.00	$1.64
000160190	6.18	2.00	$12.36	002517670	60.87	1.00	$60.87
000160191	7.72	1.00	$7.72	002518493	0.18	1.00	$0.18
000166382	58.36	3.00	$175.08	002520803	18.91	1.00	$18.91
000166382	58.36	1.00	$58.36	002522013	0.42	1.00	$0.42
000166382	58.36	3.00	$175.08	002524996	13.01	1.00	$13.01

000191799	41.50	1.00	$41.50	002542289	23.57	1.00	$23.57
000203260	0.25	1.00	$0.25	002542991	0.85	1.00	$0.85
000203511	0.82	1.00	$0.82	002546243	1.48	7.00	$10.36
000207934	1.24	1.00	$1.24	002546243	1.48	1.00	$1.48
000212116	6.33	1.00	$6.33	002549192	9.42	4.00	$37.68
000213048	378.00	1.00	$378.00	002549287	7.94	3.00	$23.82
000213740	20.53	1.00	$20.53	002550028	1.09	1.00	$1.09
000213806	0.42	2.00	$0.84	002550392	7.46	1.00	$7.46
000216415	36.51	1.00	$36.51	002552507	329.00	1.00	$329.00
000225664	0.42	1.00	$0.42	002552694	55.10	1.00	$55.10
000231768	3.53	5.00	$17.65	002557236	2.31	1.00	$2.31
000231910	282.87	1.00	$282.87	002559011	1443.99	1.00	$1,443.99
000231926	5.82	1.00	$5.82	002559099	5.33	6.00	$31.98
000234085	0.43	2.00	$0.86	002559101	3.61	6.00	$21.66
000240378	11.41	1.00	$11.41	002559504	0.52	1.00	$0.52
000240612	5.63	1.00	$5.63	002564794	0.14	2.00	$0.28
000240612	5.63	1.00	$5.63	002568040	0.28	4.00	$1.12
000243971	0.31	3.00	$0.93	002568157	0.55	1.00	$0.55
000249699	0.10	1.00	$0.10	002569131	22.43	1.00	$22.43
000259203	0.22	1.00	$0.22	002570039	0.09	1.00	$0.09
000260008	173.45	1.00	$173.45	002570431	28.22	10.00	$282.20
000269661	2.93	1.00	$2.93	002574924	201.00	1.00	$201.00
000278142	13.84	1.00	$13.84	002575360	24.85	1.00	$24.85
000278917	2.93	1.00	$2.93	002575628	135.21	1.00	$135.21
000283027	0.63	1.00	$0.63	002579406	1.59	1.00	$1.59
000284322	106.71	1.00	$106.71	002584825	5.08	1.00	$5.08
000286713	42.18	1.00	$42.18	002588559	394.00	1.00	$394.00
000286714	37.88	1.00	$37.88	002588947	12.20	1.00	$12.20
000303167	1.80	1.00	$1.80	002591021	1.20	1.00	$1.20
000303169	0.44	1.00	$0.44	002594636	9.01	4.00	$36.04
000306306	17.29	2.00	$34.58	002598889	71.00	1.00	$71.00
000310920	0.33	4.00	$1.32	002601279	28.70	6.00	$172.20
000321153	3.13	1.00	$3.13	002603408	4.90	4.00	$19.60
000336338	17.34	2.00	$34.68	002604875	1.39	1.00	$1.39
000357378	106.02	1.00	$106.02	002606412	0.95	1.00	$0.95
000357811	25.60	3.00	$76.80	002615423	11.24	3.00	$33.72
000357812	20.07	3.00	$60.21	002616465	0.58	1.00	$0.58
000358486	33.90	1.00	$33.90	002617344	1.72	2.00	$3.44
000358971	849.06	4.00	$3,396.24	002618317	41.42	1.00	$41.42
000359937	4.05	1.00	$4.05	002618496	56.79	1.00	$56.79
000361496	2.44	1.00	$2.44	002618497	86.42	2.00	$172.84
000361508	27.84	1.00	$27.84	002620729	2.43	1.00	$2.43
000361516	48.25	1.00	$48.25	002620792	1.64	1.00	$1.64
000361575	9.00	1.00	$9.00	002620828	4.33	32.00	$138.56
000362424	205.00	1.00	$205.00	002621908	20.41	1.00	$20.41
000376902	0.31	2.00	$0.62	002622437	2930.00	1.00	$2,930.00
000380915	36.23	3.00	$108.69	002622505	1800.00	1.00	$1,800.00
000381533	0.21	1.00	$0.21	002622546	2230.00	1.00	$2,230.00
000382922	10.78	4.00	$43.12	002625123	2.16	2.00	$4.32

000415086	11.00	2.00	$22.00	002632492	150.00	1.00	$150.00
000420874	12.00	8.00	$96.00	002632493	122.00	1.00	$122.00
000424968	200.00	1.00	$200.00	002632499	115.00	1.00	$115.00
000427777	19.83	1.00	$19.83	002632500	157.00	1.00	$157.00
000430520	0.84	1.00	$0.84	002632501	157.00	1.00	$157.00
000431847	1.02	6.00	$6.12	002632504	181.00	1.00	$181.00
000433403	8.26	1.00	$8.26	002632507	219.00	1.00	$219.00
000434708	0.50	1.00	$0.50	002632508	118.00	1.00	$118.00
000440355	1.30	1.00	$1.30	002632509	247.00	1.00	$247.00
000440357	3.24	1.00	$3.24	002635915	0.18	1.00	$0.18
000444068	33.82	2.00	$67.64	002636632	3.50	1.00	$3.50
000444144	22.99	1.00	$22.99	002638028	0.02	4.00	$0.08
000445321	6.03	11.00	$66.33	002638030	0.05	2.00	$0.10
000445879	0.11	1.00	$0.11	002638031	0.08	1.00	$0.08
000454588	1.28	1.00	$1.28	002638034	0.09	1.00	$0.09
000455494	0.91	1.00	$0.91	002639580	2.66	4.00	$10.64
000457658	2.44	2.00	$4.88	002639839	0.40	16.00	$6.40
000458458	1.35	1.00	$1.35	002640694	0.29	1.00	$0.29
000494789	11.60	2.00	$23.20	002643552	0.92	3.00	$2.76
000497547	305.36	7.00	$2,137.52	002646568	39.24	1.00	$39.24
000500346	1.36	1.00	$1.36	002646618	0.81	2.00	$1.62
000500915	8.31	10.00	$83.10	002646630	90.09	1.00	$90.09
000502308	1.17	1.00	$1.17	002649652	0.42	3.00	$1.26
000504208	0.09	4.00	$0.36	002653667	3.47	6.00	$20.82
000504961	0.82	1.00	$0.82	002655851	9.38	24.00	$225.12
000509215	0.44	1.00	$0.44	002655856	3.35	3.00	$10.05
000509227	2.85	1.00	$2.85	002671753	14.15	1.00	$14.15
000509229	2.76	1.00	$2.76	002671766	11.14	1.00	$11.14
000510227	3.04	1.00	$3.04	002679389	1.07	1.00	$1.07
000511369	686.41	1.00	$686.41	002679974	1.93	1.00	$1.93
000511665	43.92	1.00	$43.92	002689730	48.05	1.00	$48.05
000512589	5.31	1.00	$5.31	002689882	45.44	3.00	$136.32
000514679	15.00	1.00	$15.00	002692219	1.62	1.00	$1.62
000515542	1.57	8.00	$12.56	002692220	1.63	2.00	$3.26
000515557	0.51	1.00	$0.51	002693242	9.91	1.00	$9.91
000516257	0.11	1.00	$0.11	002693743	10.60	1.00	$10.60
000518627	9.88	1.00	$9.88	002698951	947.00	1.00	$947.00
000522302	0.21	2.00	$0.42	002701378	0.74	2.00	$1.48
000523260	49.43	1.00	$49.43	002701819	0.21	1.00	$0.21
000524115	3.98	1.00	$3.98	002703084	8.68	1.00	$8.68
000526456	19.45	1.00	$19.45	002704004	83.51	1.00	$83.51
000526746	0.97	1.00	$0.97	002707879	1.10	1.00	$1.10
000527496	0.56	1.00	$0.56	002708356	7.00	3.00	$21.00
000528832	16.41	2.00	$32.82	002708467	1.21	6.00	$7.26
000539454	3.89	3.00	$11.67	002711511	40.97	1.00	$40.97
000543830	1.89	1.00	$1.89	002711647	3.13	1.00	$3.13
000543850	27.00	2.00	$54.00	002717454	2.96	1.00	$2.96
000544141	4.90	1.00	$4.90	002723627	3.58	1.00	$3.58
000545635	0.51	1.00	$0.51	002724123	3.20	4.00	$12.80
000545637	1.18	1.00	$1.18	002725701	1.34	2.00	$2.68

000545649	1.20	1.00	$1.20	002753371	2.24	2.00	$4.48
000545650	1.25	1.00	$1.25	002753529	21.25	1.00	$21.25
000545651	1.68	1.00	$1.68	002764930	0.11	1.00	$0.11
000545652	1.71	1.00	$1.71	002768657	5.08	1.00	$5.08
000546650	3.09	1.00	$3.09	002769455	4.91	1.00	$4.91
000546651	1.33	1.00	$1.33	002769499	6.15	1.00	$6.15
000546652	1.95	1.00	$1.95	002774268	104.41	2.00	$208.82
000546653	2.75	1.00	$2.75	002775555	1.56	3.00	$4.68
000546654	3.89	1.00	$3.89	002776023	62.79	1.00	$62.79
000546655	2.22	1.00	$2.22	002776038	9.50	4.00	$38.00
000546667	1.62	1.00	$1.62	002776039	116.06	1.00	$116.06
000546669	2.54	1.00	$2.54	002776043	28.09	1.00	$28.09
000546670	2.40	1.00	$2.40	002781923	16.50	1.00	$16.50
000546671	5.49	1.00	$5.49	002782523	0.25	52.00	$13.00
000546672	3.36	1.00	$3.36	002783989	2.26	1.00	$2.26
000546674	5.76	1.00	$5.76	002785651	0.73	12.00	$8.76
000546683	2.74	1.00	$2.74	002787282	0.28	1.00	$0.28
000548960	78.00	1.00	$78.00	002789200	0.84	6.00	$5.04
000549436	92.97	1.00	$92.97	002790353	0.09	1.00	$0.09
000565429	1.51	1.00	$1.51	002790985	0.05	1.00	$0.05
000567962	0.11	2.00	$0.22	002790985	0.05	3.00	$0.15
000569961	1.18	1.00	$1.18	002791434	38.73	1.00	$38.73
000570573	0.61	1.00	$0.61	002791686	0.05	1.00	$0.05
000573297	1.44	1.00	$1.44	002791889	0.04	2.00	$0.08
000574593	5.76	1.00	$5.76	002801036	38.90	7.00	$272.30
000577794	0.71	1.00	$0.71	002803562	0.21	2.00	$0.42
000578574	429.37	1.00	$429.37	002804465	0.12	3.00	$0.36
000578582	554.00	3.00	$1,662.00	002805027	0.13	4.00	$0.52
000578583	794.82	2.00	$1,589.64	002805038	0.33	2.00	$0.66
000579820	12.30	1.00	$12.30	002805066	0.24	2.00	$0.48
000582072	0.09	1.00	$0.09	002808344	0.13	9.00	$1.17
000585120	2.31	1.00	$2.31	002810224	0.15	5.00	$0.75
000588676	304.67	3.00	$914.01	002816623	0.09	1.00	$0.09
000589698	0.65	1.00	$0.65	002817456	4.55	10.00	$45.50
000589737	0.81	2.00	$1.62	002821633	0.92	1.00	$0.92
000589747	1.68	1.00	$1.68	002822682	1.18	1.00	$1.18
000592904	0.94	1.00	$0.94	002826129	0.29	4.00	$1.16
000593658	4.05	1.00	$4.05	002827120	0.38	1.00	$0.38
000593660	3.02	1.00	$3.02	002832950	8.82	1.00	$8.82
000594546	1.55	1.00	$1.55	002833706	302.60	1.00	$302.60
000595167	3.84	3.00	$11.52	002835280	2.75	1.00	$2.75
000595438	1.33	1.00	$1.33	002839741	1.18	1.00	$1.18
000596574	361.00	1.00	$361.00	002840023	0.13	11.00	$1.43
000597575	89.24	1.00	$89.24	002840481	7.72	1.00	$7.72
000601679	0.29	1.00	$0.29	002840852	10.43	3.00	$31.29
000603731	0.38	1.00	$0.38	002846787	0.08	6.00	$0.48
000604324	3.31	1.00	$3.31	002846804	0.32	1.00	$0.32
000605278	58.14	1.00	$58.14	002847376	1.38	1.00	$1.38
000607591	6.40	1.00	$6.40	002849220	0.12	9.00	$1.08

000620721	0.39	1.00	$0.39	002863866	0.46	1.00	$0.46
000637889	0.11	5.00	$0.55	002866047	5.90	1.00	$5.90
000642379	0.61	1.00	$0.61	002866816	3.78	1.00	$3.78
000642998	5.35	3.00	$16.05	002868025	0.38	1.00	$0.38
000648244	176.02	1.00	$176.02	002869980	2.02	6.00	$12.12
000648546	181.71	4.00	$726.84	002880008	40.81	1.00	$40.81
000648795	29.45	3.00	$88.35	002887779	5.95	1.00	$5.95
000649093	6.11	1.00	$6.11	002887783	0.95	27.00	$25.65
000651836	1270.00	1.00	$1,270.00	002887785	0.73	1.00	$0.73
000659251	25.79	2.00	$51.58	002887785	0.73	27.00	$19.71
000665798	14.95	2.00	$29.90	002888494	1.99	1.00	$1.99
000665799	7.55	1.00	$7.55	002889873	2.02	2.00	$4.04
000665800	4.44	1.00	$4.44	002892618	2.70	2.00	$5.40
000666102	55.45	1.00	$55.45	002894448	0.59	1.00	$0.59
000667325	2.67	1.00	$2.67	002898619	0.64	4.00	$2.56
000667326	3.07	1.00	$3.07	002899878	52.51	1.00	$52.51
000676438	14.82	1.00	$14.82	002900042	17.11	1.00	$17.11
000678375	5.00	2.00	$10.00	002902907	0.53	1.00	$0.53
000678663	0.38	6.00	$2.28	002904599	3.27	1.00	$3.27
000680513	0.02	4.00	$0.08	002905546	1.13	1.00	$1.13
000680543	0.19	1.00	$0.19	002909060	0.50	1.00	$0.50
000685276	2.82	1.00	$2.82	002909563	1.77	3.00	$5.31
000685287	1.98	1.00	$1.98	002909891	0.08	1.00	$0.08
000685405	0.10	2.00	$0.20	002911695	2.05	1.00	$2.05
000685410	2.82	1.00	$2.82	002912664	2.38	1.00	$2.38
000685414	2.69	1.00	$2.69	002913076	0.29	1.00	$0.29
000690371	29.28	1.00	$29.28	002913268	0.37	1.00	$0.37
000711313	0.05	2.00	$0.10	002913363	7.30	1.00	$7.30
000711315	3.43	1.00	$3.43	002913488	0.34	5.00	$1.70
000711322	3.46	1.00	$3.46	002913492	0.13	2.00	$0.26
000711761	3.65	1.00	$3.65	002913495	0.09	1.00	$0.09
000712070	5.01	1.00	$5.01	002915066	3.22	1.00	$3.22
000715827	2.15	1.00	$2.15	002919366	3.44	1.00	$3.44
000716651	0.52	1.00	$0.52	002919597	6.35	1.00	$6.35
000717783	0.98	2.00	$1.96	002920580	0.04	5.00	$0.20
000718739	1.84	1.00	$1.84	002920894	3.17	1.00	$3.17
000728412	284.00	2.00	$568.00	002922456	0.18	1.00	$0.18
000736608	928.45	1.00	$928.45	002923475	3.25	1.00	$3.25
000742072	1.18	1.00	$1.18	002924089	0.37	2.00	$0.74
000743301	0.12	1.00	$0.12	002924407	1.45	1.00	$1.45
000745564	47.00	1.00	$47.00	002929914	0.08	2.00	$0.16
000756772	6.20	6.00	$37.20	002932913	358.98	1.00	$358.98
000765542	14.50	1.00	$14.50	002934208	3.49	3.00	$10.47
000768640	35.14	1.00	$35.14	002934208	3.49	2.00	$6.98
000769503	18.79	1.00	$18.79	002938590	10.92	1.00	$10.92
000771046	4.73	1.00	$4.73	002939186	6.98	5.00	$34.90
000771047	4.05	2.00	$8.10	002942749	21.26	3.00	$63.78
000782531	148.16	3.00	$444.48	002942750	21.24	4.00	$84.96
000783110	109.89	1.00	$109.89	002949927	19.95	21.00	$418.95
000786804	0.22	19.00	$4.18	002949930	1.76	14.00	$24.64

000795835	4.53	1.00	$4.53	002959270	0.37	2.00	$0.74
000796624	0.19	3.00	$0.57	002960575	1.56	4.00	$6.24
000796863	358.92	4.00	$1,435.68	002961677	0.28	6.00	$1.68
000797838	0.26	1.00	$0.26	002963615	61.96	1.00	$61.96
000797839	0.14	3.00	$0.42	002974983	1.39	1.00	$1.39
000797840	0.74	11.00	$8.14	002975644	8.03	1.00	$8.03
000798943	0.86	1.00	$0.86	002976777	0.76	1.00	$0.76
000801048	0.52	1.00	$0.52	002980703	0.05	1.00	$0.05
000804082	1.56	1.00	$1.56	002980710	0.46	2.00	$0.92
000804104	58.60	1.00	$58.60	002982472	0.05	1.00	$0.05
000804203	5.48	14.00	$76.72	002985058	24.77	2.00	$49.54
000804966	101.40	1.00	$101.40	002985271	0.59	1.00	$0.59
000805899	0.53	1.00	$0.53	002985555	0.13	21.00	$2.73
000808752	2.09	1.00	$2.09	002986564	5.25	1.00	$5.25
000814816	3.51	1.00	$3.51	002997123	8.61	3.00	$25.83
000816342	2.79	1.00	$2.79	002999825	11.58	3.00	$34.74
000817108	13.42	1.00	$13.42	003001876	2880.00	1.00	$2,880.00
000823737	3.37	1.00	$3.37	003004466	8.89	1.00	$8.89
000823942	0.07	1.00	$0.07	003004467	11.29	1.00	$11.29
000823942	0.07	5.00	$0.35	003004470	14.96	1.00	$14.96
000823948	0.17	1.00	$0.17	003004474	4.71	1.00	$4.71
000824652	0.28	1.00	$0.28	003004476	5.41	1.00	$5.41
000824745	0.71	1.00	$0.71	003004477	0.64	1.00	$0.64
000824874	0.28	1.00	$0.28	003004479	2.33	1.00	$2.33
000825094	0.03	1.00	$0.03	003004480	0.67	4.00	$2.68
000825853	7.60	1.00	$7.60	003004481	4.10	4.00	$16.40
000826721	5.35	1.00	$5.35	003004482	10.80	1.00	$10.80
000830678	0.51	2.00	$1.02	003004483	3.74	1.00	$3.74
000850468	5.22	2.00	$10.44	003004484	7.20	2.00	$14.40
000850808	203.87	1.00	$203.87	003004485	1.91	2.00	$3.82
000850810	54.02	1.00	$54.02	003004486	4.67	2.00	$9.34
000850811	177.41	1.00	$177.41	003004487	7.32	2.00	$14.64
000853985	6.91	2.00	$13.82	003004488	0.66	13.00	$8.58
000860544	0.04	10.00	$0.40	003005692	0.95	2.00	$1.90
000868561	67.81	1.00	$67.81	003005694	10.59	1.00	$10.59
000868922	38.66	1.00	$38.66	003005695	4.24	4.00	$16.96
000870545	0.84	1.00	$0.84	003005919	5.20	2.00	$10.40
000871472	0.21	4.00	$0.84	003006051	1.65	6.00	$9.90
000876047	0.14	3.00	$0.42	003006966	10.96	7.00	$76.72
000877675	20.68	1.00	$20.68	003012161	74.17	1.00	$74.17
000879014	13.81	1.00	$13.81	003015114	81.50	2.00	$163.00
000880635	0.34	1.00	$0.34	003021960	123.15	2.00	$246.30
000882524	301.73	1.00	$301.73	003028078	238.88	1.00	$238.88
000882585	140.01	1.00	$140.01	003056338	14.35	16.00	$229.60
000882594	20.06	1.00	$20.06	003056354	1.56	1.00	$1.56
000882595	25.27	1.00	$25.27	003056369	2.46	3.00	$7.38
000882596	107.89	1.00	$107.89	003056412	4.32	4.00	$17.28
000882643	171.92	1.00	$171.92	003060066	17.40	1.00	$17.40
000882653	30.21	1.00	$30.21	003061084	2.68	1.00	$2.68

000888638	157.61	1.00	$157.61	003087345	25.40	1.00	$25.40
000892676	74.87	2.00	$149.74	003087363	4.46	1.00	$4.46
000892683	64.62	2.00	$129.24	003087395	51.40	1.00	$51.40
000892691	68.00	2.00	$136.00	003097997	0.66	1.00	$0.66
000907257	48.76	1.00	$48.76	003106525	5.28	3.00	$15.84
000917871	9.68	1.00	$9.68	003107398	4.14	1.00	$4.14
000919831	3.16	2.00	$6.32	003115044	241.25	1.00	$241.25
000946294	241.72	1.00	$241.72	003115062	711.50	1.00	$711.50
000971677	4.14	2.00	$8.28	003146761	14.24	1.00	$14.24
000975847	20.88	1.00	$20.88	003160382	5.91	1.00	$5.91
000976353	12.84	1.00	$12.84	003165457	19.87	2.00	$39.74
000976462	1.58	12.00	$18.96	003168132	0.51	2.00	$1.02
000988032	0.62	1.00	$0.62	003181373	181.85	1.00	$181.85
000988533	61.09	1.00	$61.09	003182223	2.57	1.00	$2.57
000988847	5604.87	1.00	$5,604.87	003182224	2.77	1.00	$2.77
000997839	0.16	4.00	$0.64	003183496	3.28	2.00	$6.56
000997877	0.62	4.00	$2.48	003195692	560.91	1.00	$560.91
000997881	2.51	6.00	$15.06	003207127	0.71	1.00	$0.71
000998453	5.44	1.00	$5.44	003207459	0.12	2.00	$0.24
001000420	10.05	16.00	$160.80	003218435	177.91	1.00	$177.91
001003315	111.90	1.00	$111.90	003218455	0.23	4.00	$0.92
001007076	27.54	1.00	$27.54	003230291	0.41	2.00	$0.82
001007767	24.88	1.00	$24.88	003239673	1.75	1.00	$1.75
001018598	2.41	1.00	$2.41	003243085	3.55	1.00	$3.55
001018610	7.07	1.00	$7.07	003246971	1.38	2.00	$2.76
001020889	290.81	1.00	$290.81	003247090	2.62	1.00	$2.62
001021099	6.85	1.00	$6.85	003247555	279.67	1.00	$279.67
001023073	2210.00	1.00	$2,210.00	003250469	10.92	1.00	$10.92
001023074	2490.00	1.00	$2,490.00	003251875	0.01	1.00	$0.01
001023084	1990.00	1.00	$1,990.00	003253177	1.50	2.00	$3.00
001024715	63.81	1.00	$63.81	003254479	7.14	1.00	$7.14
001026146	1.55	1.00	$1.55	003256507	5.17	1.00	$5.17
001026499	1.27	1.00	$1.27	003273130	16.30	2.00	$32.60
001026630	2630.00	1.00	$2,630.00	003273145	14.14	2.00	$28.28
001028284	1.06	1.00	$1.06	003273146	20.96	2.00	$41.92
001042092	2450.00	1.00	$2,450.00	003294497	1.93	1.00	$1.93
001042096	1930.00	1.00	$1,930.00	003295813	249.05	1.00	$249.05
001042098	1740.00	1.00	$1,740.00	003297241	59.23	1.00	$59.23
001042101	1350.00	2.00	$2,700.00	003301389	25.50	1.00	$25.50
001042813	0.45	1.00	$0.45	003312108	19.39	1.00	$19.39
001048336	0.11	2.00	$0.22	003319608	33.47	1.00	$33.47
001048337	0.11	1.00	$0.11	003320407	1.30	4.00	$5.20
001048342	0.05	1.00	$0.05	003337641	0.48	1.00	$0.48
001048347	0.19	1.00	$0.19	003338040	45.23	1.00	$45.23
001048348	0.12	1.00	$0.12	003361124	0.34	12.00	$4.08
001048349	0.05	2.00	$0.10	003364525	0.42	1.00	$0.42
001048350	0.09	1.00	$0.09	003365868	66.82	1.00	$66.82
001048351	0.16	1.00	$0.16	003381382	0.39	5.00	$1.95
001048353	0.21	1.00	$0.21	003381440	0.49	1.00	$0.49
001048355	0.24	1.00	$0.24	003383762	22.14	1.00	$22.14

001053281	0.87	1.00	$0.87	003384039	82.90	2.00	$165.80
001055730	0.43	1.00	$0.43	003389425	13.52	1.00	$13.52
001056052	1730.00	7.00	$12,110.00	003393440	10.42	1.00	$10.42
001056450	1030.00	1.00	$1,030.00	003397590	1.88	1.00	$1.88
001057764	0.11	1.00	$0.11	003403826	5.28	6.00	$31.68
001057768	0.15	1.00	$0.15	003404318	914.68	1.00	$914.68
001061246	0.23	1.00	$0.23	003404471	111.22	6.00	$667.32
001061273	0.05	1.00	$0.05	003414306	111.49	1.00	$111.49
001061282	0.05	1.00	$0.05	003416251	8.26	1.00	$8.26
001061356	0.12	1.00	$0.12	003428098	2.45	2.00	$4.90
001061743	2.47	6.00	$14.82	003431595	0.61	6.00	$3.66
001069344	0.16	4.00	$0.64	003431859	0.68	1.00	$0.68
001069351	0.05	1.00	$0.05	003438153	173.61	1.00	$173.61
001069352	0.15	1.00	$0.15	003466655	27.78	1.00	$27.78
001070656	0.05	1.00	$0.05	003496194	28.45	1.00	$28.45
001074897	54.66	1.00	$54.66	003496862	22.62	2.00	$45.24
001076772	43.84	1.00	$43.84	003508382	126.46	1.00	$126.46
001077566	8.67	4.00	$34.68	003509711	4.26	1.00	$4.26
001077706	76.28	10.00	$762.80	003515944	1.49	1.00	$1.49
001077706	76.28	10.00	$762.80	003516135	4.18	1.00	$4.18
001084269	11.21	2.00	$22.42	003517813	0.04	1.00	$0.04
001086922	0.11	1.00	$0.11	003528806	34.19	1.00	$34.19
001091123	3.00	1.00	$3.00	003545521	5.90	1.00	$5.90
001091157	4.44	3.00	$13.32	003555423	15.62	1.00	$15.62
001091179	3.44	2.00	$6.88	003559669	15.24	2.00	$30.48
001099819	85.67	1.00	$85.67	003566675	19.28	1.00	$19.28
001100196	0.14	3.00	$0.42	003567571	306.85	2.00	$613.70
001100310	0.05	1.00	$0.05	003568745	11.11	1.00	$11.11
001100348	43.24	1.00	$43.24	003595389	64.66	1.00	$64.66
001100388	0.07	1.00	$0.07	003596177	7.41	1.00	$7.41
001100991	0.23	1.00	$0.23	003599663	6.56	1.00	$6.56
001100993	0.13	4.00	$0.52	003600018	4.58	1.00	$4.58
001101153	577.86	1.00	$577.86	003603399	6.41	2.00	$12.82
001107486	233.42	4.00	$933.68	003618599	6.25	2.00	$12.50
001107486	233.42	1.00	$233.42	003618887	39.09	1.00	$39.09
001107620	0.14	1.00	$0.14	003619093	7.34	4.00	$29.36
001107622	0.11	1.00	$0.11	003622930	9.74	1.00	$9.74
001108813	199.94	1.00	$199.94	003631856	19.84	2.00	$39.68
001110462	0.80	1.00	$0.80	003634245	52.55	1.00	$52.55
001113208	1.02	1.00	$1.02	003634323	4.40	1.00	$4.40
001114727	0.15	1.00	$0.15	003634668	72.88	1.00	$72.88
001114735	0.11	2.00	$0.22	003640764	89.22	1.00	$89.22
001114736	0.11	1.00	$0.11	003647361	5.40	3.00	$16.20
001114738	0.13	1.00	$0.13	003649787	14.06	1.00	$14.06
001114741	0.11	1.00	$0.11	003649888	7.86	2.00	$15.72
001114955	10.78	5.00	$53.90	003649892	579.68	1.00	$579.68
001114984	3.54	2.00	$7.08	003655977	0.49	1.00	$0.49
001115120	29.88	1.00	$29.88	003667700	1.19	1.00	$1.19
001115121	30.35	1.00	$30.35	003670788	6.30	6.00	$37.80

001121304	5.22	1.00	$5.22	003690389	46.20	2.00	$92.40
001122134	0.27	1.00	$0.27	003690426	9.01	2.00	$18.02
001123304	0.36	1.00	$0.36	003692598	1.62	2.00	$3.24
001127312	4.00	1.00	$4.00	003692620	2.73	1.00	$2.73
001129463	1.68	1.00	$1.68	003693747	0.39	2.00	$0.78
001130352	1.72	1.00	$1.72	003693775	17.05	14.00	$238.70
001135163	138.74	1.00	$138.74	003696916	0.18	1.00	$0.18
001135286	0.41	1.00	$0.41	003697730	2.77	1.00	$2.77
001135445	0.23	1.00	$0.23	003697831	3.85	1.00	$3.85
001135475	0.71	1.00	$0.71	003699134	13.28	1.00	$13.28
001138179	2.58	1.00	$2.58	003700038	9.84	1.00	$9.84
001138183	4.97	1.00	$4.97	003700206	4.25	1.00	$4.25
001138198	3.54	2.00	$7.08	003700689	0.42	1.00	$0.42
001139828	2.50	1.00	$2.50	003700809	0.09	1.00	$0.09
001140031	17.37	1.00	$17.37	003700881	7.91	1.00	$7.91
001140708	0.05	1.00	$0.05	003701113	6.00	1.00	$6.00
001140710	0.09	1.00	$0.09	003701116	6.50	1.00	$6.50
001140711	0.14	1.00	$0.14	003708101	627.22	2.00	$1,254.44
001145359	0.13	1.00	$0.13	003719466	1.50	1.00	$1.50
001145381	0.05	1.00	$0.05	003720871	0.36	3.00	$1.08
001145388	0.10	1.00	$0.10	003722540	1.57	12.00	$18.84
001145407	0.09	1.00	$0.09	003724785	0.43	1.00	$0.43
001145438	0.11	2.00	$0.22	003730759	18.71	2.00	$37.42
001145441	0.05	2.00	$0.10	003730760	12.13	7.00	$84.91
001145489	0.11	1.00	$0.11	003730764	36.68	1.00	$36.68
001145601	177.79	1.00	$177.79	003754188	1.82	3.00	$5.46
001145987	7.15	1.00	$7.15	003756645	0.75	10.00	$7.50
001145990	10.94	4.00	$43.76	003756986	0.25	12.00	$3.00
001145992	11.43	1.00	$11.43	003756987	0.17	8.00	$1.36
001157953	0.12	1.00	$0.12	003757432	3.31	1.00	$3.31
001158400	10.72	1.00	$10.72	003762241	0.51	1.00	$0.51
001158512	30.84	1.00	$30.84	003768653	0.16	10.00	$1.60
001159137	71.86	1.00	$71.86	003768694	0.24	1.00	$0.24
001164980	2.84	1.00	$2.84	003770628	16.79	1.00	$16.79
001165799	12.42	1.00	$12.42	003770630	46.51	1.00	$46.51
001168556	0.10	1.00	$0.10	003780206	0.92	4.00	$3.68
001168558	0.05	1.00	$0.05	003791505	2.12	2.00	$4.24
001168561	0.11	1.00	$0.11	003791514	3.38	1.00	$3.38
001168566	0.10	1.00	$0.10	003835352	314.50	1.00	$314.50
001175508	7.42	1.00	$7.42	003837186	6.49	1.00	$6.49
001176171	2.21	1.00	$2.21	003837903	1.47	1.00	$1.47
001177927	106.21	1.00	$106.21	003837979	8.04	1.00	$8.04
001182866	1100.50	1.00	$1,100.50	003855187	8.59	1.00	$8.59
001182933	3.65	12.00	$43.80	003855191	3.39	1.00	$3.39
001188197	2.41	1.00	$2.41	003857741	29.69	1.00	$29.69
001188202	6.02	1.00	$6.02	003857820	15.50	1.00	$15.50
001188605	638.99	1.00	$638.99	003857832	3.09	1.00	$3.09
001193503	0.11	1.00	$0.11	003858828	3.09	1.00	$3.09
001193504	0.07	1.00	$0.07	003858831	2.28	1.00	$2.28

001250398	3.04	1.00	$3.04	003887562	122.60	1.00	$122.60
001250403	12.85	4.00	$51.40	003900706	21.92	1.00	$21.92
001250762	1.54	2.00	$3.08	003902489	10.62	4.00	$42.48
001258116	0.12	1.00	$0.12	003902490	11.26	4.00	$45.04
001266683	0.11	1.00	$0.11	003910914	728.73	1.00	$728.73
001277459	0.08	1.00	$0.08	003912317	0.09	8.00	$0.72
001306255	460.00	3.00	$1,380.00	003915525	21.29	1.00	$21.29
001317796	1.32	1.00	$1.32	003918733	108.11	1.00	$108.11
001320681	26.09	2.00	$52.18	003918768	1.17	1.00	$1.17
001322645	29.93	5.00	$149.65	003918806	1.52	1.00	$1.52
001330147	6.25	1.00	$6.25	003918816	0.35	1.00	$0.35
001330147	6.25	2.00	$12.50	003920392	9.68	1.00	$9.68
001330395	1.43	1.00	$1.43	003923807	47.90	1.00	$47.90
001334583	0.73	3.00	$2.19	003924201	119.89	1.00	$119.89
001338697	189.93	3.00	$569.79	003933844	1.39	2.00	$2.78
001340411	7.22	4.00	$28.88	003934900	45.43	1.00	$45.43
001345268	4.18	2.00	$8.36	003934901	3.25	2.00	$6.50
001346004	2.37	3.00	$7.11	003934904	48.83	1.00	$48.83
001346064	3.40	2.00	$6.80	003934910	27.30	2.00	$54.60
001349511	4260.00	1.00	$4,260.00	003940733	211.10	1.00	$211.10
001349512	2310.00	1.00	$2,310.00	003944184	132.63	1.00	$132.63
001349512	2310.00	1.00	$2,310.00	003944505	1.56	1.00	$1.56
001349514	1200.00	1.00	$1,200.00	003951055	3.76	24.00	$90.24
001349514	1200.00	1.00	$1,200.00	003951224	7.99	1.00	$7.99
001349516	1770.00	1.00	$1,770.00	003951225	3.09	1.00	$3.09
001349516	1770.00	1.00	$1,770.00	003953529	25.17	1.00	$25.17
001349517	1120.00	1.00	$1,120.00	003957722	1.89	1.00	$1.89
001349517	1120.00	1.00	$1,120.00	003966903	1.36	1.00	$1.36
001353944	0.06	1.00	$0.06	003971417	0.38	1.00	$0.38
001356046	0.11	1.00	$0.11	003973201	130.40	1.00	$130.40
001358622	0.07	1.00	$0.07	003973222	10.06	3.00	$30.18
001363846	8.32	2.00	$16.64	003974424	63.50	1.00	$63.50
001364162	3.49	1.00	$3.49	003974595	19.95	2.00	$39.90
001364162	3.49	1.00	$3.49	003977808	168.62	1.00	$168.62
001366912	2.22	1.00	$2.22	003977808	168.62	1.00	$168.62
001368405	0.10	1.00	$0.10	003977808	168.62	1.00	$168.62
001368407	0.26	2.00	$0.52	004001820	42.54	1.00	$42.54
001368653	2.58	1.00	$2.58	004002808	9.37	1.00	$9.37
001369191	8.73	4.00	$34.92	004006420	13.96	1.00	$13.96
001369258	2470.00	1.00	$2,470.00	004009586	0.66	2.00	$1.32
001369714	25.95	1.00	$25.95	004012838	2.80	1.00	$2.80
001369948	18.63	5.00	$93.15	004017444	0.28	2.00	$0.56
001375066	0.15	1.00	$0.15	004019773	1.19	1.00	$1.19
001379533	12.34	1.00	$12.34	004019796	1.57	2.00	$3.14
001381120	3.19	1.00	$3.19	004021007	9.09	1.00	$9.09
001382072	109.35	2.00	$218.70	004021750	9.59	27.00	$258.93
001383429	0.44	1.00	$0.44	004024590	0.04	1.00	$0.04
001383431	0.35	1.00	$0.35	004025843	2.36	2.00	$4.72
001384315	1.06	4.00	$4.24	004032566	6.08	4.00	$24.32
001384927	0.39	1.00	$0.39	004033156	0.25	1.00	$0.25

001397498	0.30	1.00	$0.30	004044161	2.38	16.00	$38.08
001398763	2.26	1.00	$2.26	004049033	79.88	1.00	$79.88
001399555	180.16	1.00	$180.16	004058112	26.02	1.00	$26.02
001399812	1.96	1.00	$1.96	004058260	0.42	1.00	$0.42
001400264	0.51	1.00	$0.51	004066837	62.59	1.00	$62.59
001400342	1.29	2.00	$2.58	004070558	1.18	2.00	$2.36
001400343	2.56	1.00	$2.56	004072160	0.19	1.00	$0.19
001400558	1.11	1.00	$1.11	004079566	0.76	1.00	$0.76
001400780	2.70	1.00	$2.70	004088141	54.21	1.00	$54.21
001402201	3.78	8.00	$30.24	004088143	58.81	1.00	$58.81
001404899	0.11	1.00	$0.11	004088523	5.36	1.00	$5.36
001404906	5.40	4.00	$21.60	004091866	10.29	2.00	$20.58
001410591	0.14	2.00	$0.28	004097312	1.21	1.00	$1.21
001410593	0.13	1.00	$0.13	004099858	13.11	1.00	$13.11
001410594	0.11	1.00	$0.11	004102530	0.53	2.00	$1.06
001410596	0.10	1.00	$0.10	004102910	13.30	1.00	$13.30
001410599	0.10	1.00	$0.10	004104853	0.04	5.00	$0.20
001410723	0.11	1.00	$0.11	004106474	0.14	14.00	$1.96
001410743	0.09	1.00	$0.09	004109250	4.27	1.00	$4.27
001410744	0.30	1.00	$0.30	004109251	1.92	1.00	$1.92
001411071	0.14	1.00	$0.14	004110128	11.00	2.00	$22.00
001411116	0.11	1.00	$0.11	004112694	10.50	4.00	$42.00
001411130	0.12	1.00	$0.12	004112699	20.50	2.00	$41.00
001411165	0.11	1.00	$0.11	004114157	1.02	1.00	$1.02
001411168	0.18	1.00	$0.18	004114690	0.83	1.00	$0.83
001411183	0.15	2.00	$0.30	004116704	4.75	20.00	$95.00
001411187	0.05	1.00	$0.05	004117645	0.07	20.00	$1.40
001411397	6.87	1.00	$6.87	004121583	18.56	2.00	$37.12
001411440	9.11	1.00	$9.11	004123721	24.78	2.00	$49.56
001413009	1.11	2.00	$2.22	004124455	0.19	5.00	$0.95
001413158	7.93	2.00	$15.86	004131337	0.78	2.00	$1.56
001419705	0.33	1.00	$0.33	004131338	0.77	13.00	$10.01
001433070	0.74	15.00	$11.10	004134520	0.08	1.00	$0.08
001433070	0.74	16.00	$11.84	004139710	0.88	1.00	$0.88
001433070	0.74	16.00	$11.84	004139746	8.75	4.00	$35.00
001433070	0.74	12.00	$8.88	004140611	2.46	1.00	$2.46
001434771	2.53	1.00	$2.53	004140612	1.28	1.00	$1.28
001434774	2.94	1.00	$2.94	004140613	5.24	1.00	$5.24
001434777	3.86	1.00	$3.86	004140648	1.47	1.00	$1.47
001434780	2.63	1.00	$2.63	004140649	0.98	1.00	$0.98
001434794	4.25	1.00	$4.25	004140716	2.68	1.00	$2.68
001435284	0.18	1.00	$0.18	004140728	1.68	1.00	$1.68
001435665	19.56	2.00	$39.12	004140739	4.77	1.00	$4.77
001444379	0.43	1.00	$0.43	004140762	0.22	1.00	$0.22
001444381	0.71	1.00	$0.71	004144420	37.80	1.00	$37.80
001444383	1.56	1.00	$1.56	004173455	297.67	6.00	$1,786.02
001448603	9.52	2.00	$19.04	004173456	183.19	6.00	$1,099.14
001448623	4.67	2.00	$9.34	004174995	1.08	1.00	$1.08
001448975	309.42	1.00	$309.42	004177442	7.45	1.00	$7.45

001465192	574.00	1.00	$574.00	004193902	1.45	1.00	$1.45
001465202	996.00	1.00	$996.00	004193906	2.10	1.00	$2.10
001465202	996.00	1.00	$996.00	004193909	1.23	1.00	$1.23
001465221	1440.00	1.00	$1,440.00	004195373	0.26	1.00	$0.26
001465221	1440.00	1.00	$1,440.00	004198509	168.38	1.00	$168.38
001465225	1220.00	1.00	$1,220.00	004198514	212.16	1.00	$212.16
001465225	1220.00	1.00	$1,220.00	004198516	221.35	1.00	$221.35
001465245	977.00	1.00	$977.00	004198517	527.89	1.00	$527.89
001465245	977.00	1.00	$977.00	004203638	6.80	1.00	$6.80
001465287	1890.00	1.00	$1,890.00	004211832	2.05	1.00	$2.05
001465287	1890.00	1.00	$1,890.00	004211862	1.76	2.00	$3.52
001465291	1690.00	1.00	$1,690.00	004213002	0.49	1.00	$0.49
001465301	5370.00	1.00	$5,370.00	004220292	14.11	1.00	$14.11
001466556	40.50	1.00	$40.50	004238415	5.55	1.00	$5.55
001466559	20.00	1.00	$20.00	004239523	6.31	1.00	$6.31
001468592	0.08	3.00	$0.24	004243007	0.16	3.00	$0.48
001470269	0.41	1.00	$0.41	004249451	0.23	1.00	$0.23
001476281	0.33	1.00	$0.33	004249752	0.04	1.00	$0.04
001476435	1.45	1.00	$1.45	004250121	8.82	1.00	$8.82
001482451	8.55	1.00	$8.55	004250956	4.67	2.00	$9.34
001482542	11.00	1.00	$11.00	004251076	65.52	2.00	$131.04
001486108	766.00	1.00	$766.00	004251596	4.07	2.00	$8.14
001499116	4.31	4.00	$17.24	004253348	5.30	48.00	$254.40
001500855	3.82	1.00	$3.82	004253352	8.48	2.00	$16.96
001501704	8.91	2.00	$17.82	004267095	0.24	1.00	$0.24
001515378	6.82	3.00	$20.46	004270430	1.08	8.00	$8.64
001519393	2.05	2.00	$4.10	004276574	56.32	1.00	$56.32
001529574	0.19	2.00	$0.38	004287487	1.68	1.00	$1.68
001534354	0.38	1.00	$0.38	004287792	46.11	1.00	$46.11
001534366	4.92	1.00	$4.92	004288931	67.45	1.00	$67.45
001534415	18.79	1.00	$18.79	004293003	1.64	1.00	$1.64
001536199	1.85	2.00	$3.70	004293376	2.36	1.00	$2.36
001548772	5.41	1.00	$5.41	004297851	1.88	1.00	$1.88
001555346	0.11	1.00	$0.11	004299338	66.49	1.00	$66.49
001556198	8.28	1.00	$8.28	004302594	226.30	6.00	$1,357.80
001556229	5.26	1.00	$5.26	004304120	7.31	1.00	$7.31
001556614	27.10	2.00	$54.20	004318628	2.14	1.00	$2.14
001556619	33.46	2.00	$66.92	004320380	0.24	1.00	$0.24
001556729	59.89	1.00	$59.89	004323152	1.10	2.00	$2.20
001557347	15.39	2.00	$30.78	004324734	0.44	1.00	$0.44
001557381	84.94	2.00	$169.88	004326410	0.30	11.00	$3.30
001557810	0.70	2.00	$1.40	004326612	24.71	2.00	$49.42
001557902	0.33	3.00	$0.99	004328304	3.09	2.00	$6.18
001560079	5.92	2.00	$11.84	004328308	0.79	1.00	$0.79
001560518	0.18	1.00	$0.18	004329355	13.33	1.00	$13.33
001561422	37.97	1.00	$37.97	004339515	2.10	4.00	$8.40
001561429	70.08	1.00	$70.08	004339640	1.28	2.00	$2.56
001561858	21.80	1.00	$21.80	004343289	3.90	8.00	$31.20
001561901	29.64	1.00	$29.64	004343521	104.18	1.00	$104.18
001563253	2.35	1.00	$2.35	004350506	52.00	2.00	$104.00

001565246	43.05	1.00	$43.05	004358511	0.32	10.00	$3.20
001565291	828.78	1.00	$828.78	004361682	67.00	1.00	$67.00
001566764	8.38	1.00	$8.38	004361686	44.00	1.00	$44.00
001568211	133.66	1.00	$133.66	004361688	64.00	1.00	$64.00
001570837	109.20	1.00	$109.20	004361695	50.00	1.00	$50.00
001591290	0.06	1.00	$0.06	004365000	13.18	2.00	$26.36
001591322	24.98	4.00	$99.92	004365000	13.18	1.00	$13.18
001592299	1.36	1.00	$1.36	004372887	2.45	1.00	$2.45
001592811	8.83	3.00	$26.49	004378766	0.92	2.00	$1.84
001599646	19.28	1.00	$19.28	004382234	1.72	1.00	$1.72
001605469	1.84	1.00	$1.84	004382699	69.00	2.00	$138.00
001609650	27.32	2.00	$54.64	004386987	3.69	1.00	$3.69
001613096	3.57	5.00	$17.85	004393789	0.08	4.00	$0.32
001615792	5.72	1.00	$5.72	004400759	28.32	1.00	$28.32
001619618	0.73	1.00	$0.73	004412574	232.38	1.00	$232.38
001625670	1.13	1.00	$1.13	004417877	14.53	1.00	$14.53
001640457	0.49	3.00	$1.47	004419502	7.49	1.00	$7.49
001642978	4.93	1.00	$4.93	004423490	13.19	1.00	$13.19
001650845	5.80	8.00	$46.40	004424728	1.25	2.00	$2.50
001651949	0.61	6.00	$3.66	004439374	56.65	1.00	$56.65
001651961	0.98	8.00	$7.84	004440849	0.51	1.00	$0.51
001651965	1.22	3.00	$3.66	004451640	1.81	7.00	$12.67
001652902	130.63	1.00	$130.63	004454422	42.44	1.00	$42.44
001653153	0.26	1.00	$0.26	004454736	0.79	1.00	$0.79
001653912	161.53	1.00	$161.53	004454752	1.65	1.00	$1.65
001653912	161.53	1.00	$161.53	004459274	10.29	3.00	$30.87
001653912	161.53	1.00	$161.53	004464419	36.62	1.00	$36.62
001653912	161.53	2.00	$323.06	004464826	26.94	1.00	$26.94
001654089	30.33	1.00	$30.33	004465689	282.97	1.00	$282.97
001661049	0.44	2.00	$0.88	004466292	1.07	1.00	$1.07
001661076	0.16	4.00	$0.64	004466765	0.44	1.00	$0.44
001661078	0.05	6.00	$0.30	004474420	14.51	1.00	$14.51
001661087	0.09	1.00	$0.09	004481782	1.35	1.00	$1.35
001661112	0.60	4.00	$2.40	004490026	23.97	1.00	$23.97
001665888	162.75	5.00	$813.75	004496001	1.12	5.00	$5.60
001665892	116.96	16.00	$1,871.36	004502701	6.97	1.00	$6.97
001668390	0.19	1.00	$0.19	004503015	0.57	7.00	$3.99
001670531	61.53	1.00	$61.53	004503975	13.67	2.00	$27.34
001670688	15.51	1.00	$15.51	004507396	0.93	1.00	$0.93
001670704	4.67	1.00	$4.67	004509371	2.65	1.00	$2.65
001670801	1.67	1.00	$1.67	004509371	2.65	5.00	$13.25
001670803	2.21	2.00	$4.42	004510164	4.22	22.00	$92.84
001670804	2.35	1.00	$2.35	004510166	0.92	2.00	$1.84
001670805	7.84	3.00	$23.52	004514310	7.86	1.00	$7.86
001670806	4.14	1.00	$4.14	004515001	4.43	1.00	$4.43
001670808	0.09	45.00	$4.05	004515768	1.39	1.00	$1.39
001670809	14.49	1.00	$14.49	004517522	0.29	1.00	$0.29
001670811	24.15	3.00	$72.45	004518323	5.89	1.00	$5.89
001670812	0.92	1.00	$0.92	004521270	11.36	1.00	$11.36

001675129	0.44	2.00	$0.88	004562633	15.51	1.00	$15.51
001675138	0.62	8.00	$4.96	004563555	1.24	1.00	$1.24
001675141	1.58	23.00	$36.34	004571024	52.80	1.00	$52.80
001675146	1.81	3.00	$5.43	004580462	54.00	2.00	$108.00
001675148	1.98	1.00	$1.98	004580465	75.00	1.00	$75.00
001675150	2.09	4.00	$8.36	004580466	42.00	1.00	$42.00
001675153	2.27	2.00	$4.54	004590907	0.17	1.00	$0.17
001675158	0.99	10.00	$9.90	004592613	2.28	1.00	$2.28
001675164	7.19	1.00	$7.19	004593002	0.28	1.00	$0.28
001675166	0.09	2.00	$0.18	004593289	0.42	1.00	$0.42
001676330	4.67	1.00	$4.67	004594403	0.87	2.00	$1.74
001676922	0.20	1.00	$0.20	004595733	3.25	1.00	$3.25
001683360	1.06	2.00	$2.12	004602863	3.45	1.00	$3.45
001683444	8.99	30.00	$269.70	004602874	52.48	1.00	$52.48
001688161	0.22	1.00	$0.22	004602879	44.90	1.00	$44.90
001695324	118.00	4.00	$472.00	004604535	4.95	4.00	$19.80
001698368	5.92	1.00	$5.92	004620832	3.80	4.00	$15.20
001700247	6.67	1.00	$6.67	004625009	11.17	1.00	$11.17
001705306	0.62	2.00	$1.24	004625720	0.48	1.00	$0.48
001705385	3.00	4.00	$12.00	004626867	7.81	1.00	$7.81
001710196	1747.06	1.00	$1,747.06	004626887	3.60	2.00	$7.20
001714888	0.10	3.00	$0.30	004635029	16.50	4.00	$66.00
001714905	2.74	2.00	$5.48	004635598	9.17	1.00	$9.17
001715051	0.25	24.00	$6.00	004651908	1.80	2.00	$3.60
001715052	1.31	1.00	$1.31	004654378	2.29	1.00	$2.29
001715062	0.73	12.00	$8.76	004654405	0.25	1.00	$0.25
001715065	0.49	16.00	$7.84	004655536	1.40	1.00	$1.40
001715066	0.53	2.00	$1.06	004656213	25.71	1.00	$25.71
001715070	0.35	16.00	$5.60	004656591	546.06	1.00	$546.06
001715074	1.80	1.00	$1.80	004661218	0.27	1.00	$0.27
001715075	0.08	16.00	$1.28	004661416	0.29	1.00	$0.29
001715096	1.76	2.00	$3.52	004662174	2.70	1.00	$2.70
001715097	0.21	16.00	$3.36	004663394	2.23	1.00	$2.23
001715752	0.60	18.00	$10.80	004663465	632.81	1.00	$632.81
001715886	1.63	4.00	$6.52	004670109	1.27	1.00	$1.27
001715887	5.31	6.00	$31.86	004670419	39.24	2.00	$78.48
001715888	2.04	2.00	$4.08	004671892	150.33	1.00	$150.33
001715889	1.94	6.00	$11.64	004671893	258.41	1.00	$258.41
001715896	5.12	2.00	$10.24	004673088	38.60	2.00	$77.20
001715898	0.99	4.00	$3.96	004673105	146.05	2.00	$292.10
001715901	0.49	12.00	$5.88	004681999	2.37	8.00	$18.96
001715904	1.78	12.00	$21.36	004682004	65.29	3.00	$195.87
001715906	5.33	4.00	$21.32	004682267	7.91	12.00	$94.92
001715910	0.30	4.00	$1.20	004682283	50.72	1.00	$50.72
001715911	0.63	8.00	$5.04	004682701	5.65	1.00	$5.65
001715912	0.94	8.00	$7.52	004682964	3.60	1.00	$3.60
001715913	1.64	4.00	$6.56	004682965	1.77	1.00	$1.77
001716132	1.32	10.00	$13.20	004683124	6.30	1.00	$6.30
001716694	2.19	2.00	$4.38	004685821	0.24	1.00	$0.24

001716757	4.59	2.00	$9.18	004704441	2460.00	1.00	$2,460.00
001719224	1.27	2.00	$2.54	004705800	12.28	1.00	$12.28
001720028	0.29	16.00	$4.64	004709493	1.45	1.00	$1.45
001720040	1.28	4.00	$5.12	004711902	1.68	1.00	$1.68
001720040	1.28	5.00	$6.40	004714426	1.59	1.00	$1.59
001721301	4.76	5.00	$23.80	004716220	0.43	1.00	$0.43
001722464	0.51	1.00	$0.51	004722783	0.12	3.00	$0.36
001722893	2.36	1.00	$2.36	004730825	53.72	1.00	$53.72
001724646	0.53	1.00	$0.53	004732855	17.43	1.00	$17.43
001726184	240.17	1.00	$240.17	004733199	1.38	25.00	$34.50
001726186	83.66	1.00	$83.66	004733200	1.36	25.00	$34.00
001727188	0.50	1.00	$0.50	004733201	0.19	10.00	$1.90
001728253	0.11	4.00	$0.44	004733207	2.82	5.00	$14.10
001728254	0.15	1.00	$0.15	004733208	1.94	5.00	$9.70
001728378	1.24	1.00	$1.24	004733210	5.94	5.00	$29.70
001729228	0.35	1.00	$0.35	004733212	2.42	5.00	$12.10
001729584	3.81	1.00	$3.81	004733214	9.60	5.00	$48.00
001731045	1.71	1.00	$1.71	004733218	7.28	5.00	$36.40
001731622	0.63	1.00	$0.63	004733551	0.07	5.00	$0.35
001740855	0.36	4.00	$1.44	004740251	0.21	1.00	$0.21
001741455	7.75	1.00	$7.75	004740643	22.62	2.00	$45.24
001741834	39.29	1.00	$39.29	004752756	5.22	10.00	$52.20
001741834	39.29	3.00	$117.87	004754403	608.71	1.00	$608.71
001742797	3.53	1.00	$3.53	004761047	25.00	1.00	$25.00
001744033	0.93	8.00	$7.44	004762979	0.74	1.00	$0.74
001744044	1.07	1.00	$1.07	004763488	12.08	1.00	$12.08
001745317	2.31	1.00	$2.31	004771185	0.42	1.00	$0.42
001747789	17.22	1.00	$17.22	004771533	1.42	8.00	$11.36
001753230	1.07	6.00	$6.42	004771546	95.33	1.00	$95.33
001753767	4.95	1.00	$4.95	004772571	5.62	1.00	$5.62
001754632	12.96	1.00	$12.96	004772574	2.75	1.00	$2.75
001755967	0.79	9.00	$7.11	004772582	35.29	3.00	$105.87
001758511	0.34	1.00	$0.34	004775022	6.51	1.00	$6.51
001764928	2.37	2.00	$4.74	004776461	0.32	4.00	$1.28
001764954	1.24	1.00	$1.24	004784402	0.13	1.00	$0.13
001764955	1.08	2.00	$2.16	004786635	22.38	2.00	$44.76
001771721	6.51	1.00	$6.51	004787252	28.35	1.00	$28.35
001772221	66.00	1.00	$66.00	004799757	0.63	1.00	$0.63
001777028	23.95	2.00	$47.90	004802255	0.45	2.00	$0.90
001777028	23.95	3.00	$71.85	004803596	4.50	1.00	$4.50
001777029	23.27	3.00	$69.81	004803891	1.68	1.00	$1.68
001777029	23.27	1.00	$23.27	004803893	1.85	4.00	$7.40
001777029	23.27	2.00	$46.54	004803904	2.23	4.00	$8.92
001777095	10.74	2.00	$21.48	004817927	102.59	1.00	$102.59
001777095	10.74	2.00	$21.48	004820594	1.68	1.00	$1.68
001777286	89.83	1.00	$89.83	004823872	15.74	1.00	$15.74
001777486	0.25	1.00	$0.25	004824313	3.59	1.00	$3.59
001779631	1.34	1.00	$1.34	004825145	0.37	1.00	$0.37
001789791	1.36	1.00	$1.36	004825151	0.48	2.00	$0.96

001802668	0.80	2.00	$1.60	004830682	125.83	1.00	$125.83
001804833	23.42	1.00	$23.42	004831522	2330.00	1.00	$2,330.00
001805637	13.96	6.00	$83.76	004834252	0.91	2.00	$1.82
001810660	1.01	7.00	$7.07	004838596	44.83	5.00	$224.15
001826813	2.44	1.00	$2.44	004838789	0.19	1.00	$0.19
001827455	0.40	1.00	$0.40	004838790	0.17	2.00	$0.34
001827462	5.35	1.00	$5.35	004841322	1.80	2.00	$3.60
001830361	6.03	1.00	$6.03	004844604	3.43	1.00	$3.43
001830511	1.07	1.00	$1.07	004845391	0.45	14.00	$6.30
001830513	1.17	2.00	$2.34	004845947	1.30	2.00	$2.60
001834355	1.15	1.00	$1.15	004846198	0.49	1.00	$0.49
001838838	3630.00	1.00	$3,630.00	004846522	9.47	1.00	$9.47
001838859	684.00	1.00	$684.00	004848005	0.39	1.00	$0.39
001838879	1410.00	2.00	$2,820.00	004859363	61.42	1.00	$61.42
001847703	0.33	1.00	$0.33	004859941	52.00	2.00	$104.00
001849108	53.36	1.00	$53.36	004871614	0.82	4.00	$3.28
001850004	1.38	1.00	$1.38	004871827	6.67	2.00	$13.34
001854020	45.33	1.00	$45.33	004879238	13.48	1.00	$13.48
001856375	16.61	1.00	$16.61	004882729	69.23	1.00	$69.23
001858996	20.40	1.00	$20.40	004883348	5.98	2.00	$11.96
001860967	7.69	1.00	$7.69	004883917	2.63	8.00	$21.04
001860979	3.00	1.00	$3.00	004884719	26.41	1.00	$26.41
001861032	0.17	1.00	$0.17	004885744	27.47	1.00	$27.47
001862751	1.85	10.00	$18.50	004886512	0.17	2.00	$0.34
001862963	0.85	10.00	$8.50	004891997	9.15	1.00	$9.15
001866699	1.44	1.00	$1.44	004895123	0.52	1.00	$0.52
001867797	0.40	3.00	$1.20	004897813	203.89	1.00	$203.89
001872425	4.09	1.00	$4.09	004903743	2.71	1.00	$2.71
001873241	6.04	1.00	$6.04	004905219	2.67	1.00	$2.67
001874279	1.37	1.00	$1.37	004905220	3.24	1.00	$3.24
001874283	3.50	2.00	$7.00	004908389	7.79	1.00	$7.79
001879431	4.04	1.00	$4.04	004912795	0.21	4.00	$0.84
001879438	3.69	1.00	$3.69	004913183	112.54	1.00	$112.54
001879506	130.21	3.00	$390.63	004914506	0.44	23.00	$10.12
001880213	39.10	1.00	$39.10	004917664	0.72	4.00	$2.88
001880214	66.61	2.00	$133.22	004918595	28.43	1.00	$28.43
001880215	28.22	1.00	$28.22	004918714	2.70	1.00	$2.70
001880226	53.48	1.00	$53.48	004919044	1.39	1.00	$1.39
001891916	4.61	2.00	$9.22	004920330	6.23	1.00	$6.23
001892454	0.23	1.00	$0.23	004920332	17.88	2.00	$35.76
001893813	225.50	1.00	$225.50	004920575	0.26	2.00	$0.52
001894248	0.77	2.00	$1.54	004922385	4.77	1.00	$4.77
001894673	74.25	1.00	$74.25	004930466	8.27	1.00	$8.27
001897917	3.54	15.00	$53.10	004935835	2.24	2.00	$4.48
001897917	3.54	2.00	$7.08	004935877	6.92	1.00	$6.92
001900932	4.20	1.00	$4.20	004938125	0.07	48.00	$3.36
001901887	0.45	2.00	$0.90	004943726	3.24	1.00	$3.24
001905568	2.45	2.00	$4.90	004944674	28.77	5.00	$143.85
001905568	2.45	3.00	$7.35	004949005	21.62	2.00	$43.24
001920460	16.74	1.00	$16.74	004950042	0.38	4.00	$1.52

001939695	0.04	1.00	$0.04	004971138	2.05	6.00	$12.30
001940876	0.04	1.00	$0.04	004976944	13.76	2.00	$27.52
001941670	0.26	9.00	$2.34	004978876	42.77	1.00	$42.77
001945176	0.29	2.00	$0.58	004978912	43.46	1.00	$43.46
001948195	0.18	1.00	$0.18	004980057	626.00	1.00	$626.00
001948196	0.17	2.00	$0.34	004981840	5.77	1.00	$5.77
001948498	0.36	1.00	$0.36	004982807	0.89	1.00	$0.89
001948911	2.83	3.00	$8.49	004982922	7.30	1.00	$7.30
001952366	5.51	1.00	$5.51	004983383	8.13	1.00	$8.13
001957883	78.33	1.00	$78.33	004985635	3.79	1.00	$3.79
001960930	0.21	1.00	$0.21	004985785	3.21	1.00	$3.21
001960930	0.21	2.00	$0.42	004985824	36.38	1.00	$36.38
001961502	0.16	1.00	$0.16	004985912	192.23	1.00	$192.23
001961991	0.65	20.00	$13.00	004985927	0.58	1.00	$0.58
001965368	0.02	3.00	$0.06	004988467	2.27	3.00	$6.81
001966895	0.24	1.00	$0.24	004992270	24.43	2.00	$48.86
001970214	2.75	1.00	$2.75	004992404	1.00	1.00	$1.00
001973351	8.59	1.00	$8.59	004993935	34.20	1.00	$34.20
001973361	12.10	1.00	$12.10	004997389	18.51	3.00	$55.53
001974289	0.24	6.00	$1.44	004998470	52.00	4.00	$208.00
001974862	0.42	*******	$42.00	005005381	7.95	1.00	$7.95
001975272	0.31	8.00	$2.48	005005992	5.09	1.00	$5.09
001977100	6.59	2.00	$13.18	005008722	0.10	3.00	$0.30
001978981	0.36	1.00	$0.36	005012091	332.05	1.00	$332.05
001981050	4.67	1.00	$4.67	005013213	0.97	1.00	$0.97
001982209	98.12	1.00	$98.12	005013215	1.01	1.00	$1.01
001982462	7.02	2.00	$14.04	005013669	0.11	1.00	$0.11
001984007	0.12	1.00	$0.12	005015184	1.88	1.00	$1.88
001984041	0.08	1.00	$0.08	005024522	4.36	1.00	$4.36
001994022	1.19	2.00	$2.38	005027096	2.32	1.00	$2.32
001995030	4.27	1.00	$4.27	005028469	8.66	1.00	$8.66
001999498	0.13	13.00	$1.69	005028470	14.17	1.00	$14.17
001999518	557.66	1.00	$557.66	005028480	7.42	1.00	$7.42
002004445	0.11	9.00	$0.99	005031975	55.16	1.00	$55.16
002004635	0.55	1.00	$0.55	005031991	60.85	2.00	$121.70
002005904	0.03	1.00	$0.03	005038674	55.89	1.00	$55.89
002007234	1.01	1.00	$1.01	005040540	0.34	1.00	$0.34
002008559	0.22	1.00	$0.22	005040564	27.06	1.00	$27.06
002008911	0.26	1.00	$0.26	005041710	9.62	1.00	$9.62
002009596	1.58	1.00	$1.58	005045875	68.07	2.00	$136.14
002009602	0.25	1.00	$0.25	005046094	25.83	1.00	$25.83
002011077	5.34	2.00	$10.68	005046855	2.31	1.00	$2.31
002012130	4.97	1.00	$4.97	005047988	117.93	1.00	$117.93
002012755	14.79	1.00	$14.79	005049152	66.00	1.00	$66.00
002013191	3.99	3.00	$11.97	005049160	47.22	1.00	$47.22
002013952	9.87	1.00	$9.87	005049162	37.18	1.00	$37.18
002014707	0.77	1.00	$0.77	005049237	93.39	2.00	$186.78
002017261	9.70	1.00	$9.70	005049433	44.79	1.00	$44.79
002018476	3.90	1.00	$3.90	005049704	60.28	1.00	$60.28
002020899	4.95	2.00	$9.90	005049888	52.90	1.00	$52.90

002033168	0.36	15.00	$5.40	005066606	2.19	1.00	$2.19
002033171	10.43	2.00	$20.86	005080855	411.55	3.00	$1,234.65
002040090	2.23	1.00	$2.23	005094033	2.06	1.00	$2.06
002043491	0.32	7.00	$2.24	005094372	3.03	1.00	$3.03
002047481	2.70	1.00	$2.70	005096194	9.61	1.00	$9.61
002048966	2.58	1.00	$2.58	005098716	5.39	3.00	$16.17
002048990	4.71	1.00	$4.71	005098721	10.63	2.00	$21.26
002049517	12.19	2.00	$24.38	005137681	729.17	1.00	$729.17
002049519	15.34	1.00	$15.34	005137682	580.44	1.00	$580.44
002049530	6.35	6.00	$38.10	005137849	7.69	41.00	$315.29
002049569	207.83	2.00	$415.66	005138302	1192.10	1.00	$1,192.10
002050565	3.27	2.00	$6.54	005139880	26.20	1.00	$26.20
002051101	23.83	1.00	$23.83	005141353	0.14	1.00	$0.14
002053021	7.07	1.00	$7.07	005145431	8.48	1.00	$8.48
002054593	0.17	1.00	$0.17	005146123	1.25	1.00	$1.25
002062938	0.31	11.00	$3.41	005146944	0.06	1.00	$0.06
002063171	0.30	1.00	$0.30	005147394	1.02	1.00	$1.02
002063177	0.53	2.00	$1.06	005157449	0.84	1.00	$0.84
002063187	5.16	1.00	$5.16	005158243	0.68	1.00	$0.68
002066599	0.29	6.00	$1.74	005158537	0.26	5.00	$1.30
002074016	0.21	3.00	$0.63	005161577	3.66	1.00	$3.66
002078253	0.06	52.00	$3.12	005161695	0.77	1.00	$0.77
002080042	0.32	1.00	$0.32	005161702	0.80	2.00	$1.60
002083786	5.34	1.00	$5.34	005165289	3.05	2.00	$6.10
002086403	0.04	1.00	$0.04	005165490	2.83	1.00	$2.83
002086430	0.08	1.00	$0.08	005168049	8.82	2.00	$17.64
002086431	3.80	1.00	$3.80	005169565	10.49	1.00	$10.49
002087154	576.37	1.00	$576.37	005178457	3.30	1.00	$3.30
002088718	0.30	1.00	$0.30	005179754	29.00	1.00	$29.00
002091814	4.60	1.00	$4.60	005181791	0.29	3.00	$0.87
002092019	19.00	2.00	$38.00	005183619	45.72	1.00	$45.72
002093861	0.17	1.00	$0.17	005184431	248.52	1.00	$248.52
002097720	4.14	3.00	$12.42	005185334	1.01	1.00	$1.01
002098005	2.32	1.00	$2.32	005185594	2.27	1.00	$2.27
002099799	10.14	4.00	$40.56	005185595	2.29	1.00	$2.29
002110056	2.15	1.00	$2.15	005188221	3.30	1.00	$3.30
002111319	1.75	1.00	$1.75	005189611	5.12	17.00	$87.04
002111886	3.18	2.00	$6.36	005191221	14.37	14.00	$201.18
002112847	0.34	1.00	$0.34	005196629	1.72	1.00	$1.72
002116917	9.40	43.00	$404.20	005196630	0.77	3.00	$2.31
002118188	1.47	1.00	$1.47	005198144	12.86	1.00	$12.86
002119911	9.68	1.00	$9.68	005205228	16.23	1.00	$16.23
002120166	2.70	3.00	$8.10	005205335	305.91	1.00	$305.91
002137922	0.96	1.00	$0.96	005206145	2.61	1.00	$2.61
002141079	1.16	1.00	$1.16	005209284	2.40	1.00	$2.40
002170157	13.62	1.00	$13.62	005210558	1.89	1.00	$1.89
002170169	1.36	2.00	$2.72	005212526	103.88	1.00	$103.88
002170221	18.38	2.00	$36.76	005219820	20.54	8.00	$164.32
002172820	615.05	1.00	$615.05	005223450	144.00	1.00	$144.00

002218342	6.36	1.00	$6.36	005223735	137.00	1.00	$137.00
002218371	0.85	1.00	$0.85	005223749	187.00	1.00	$187.00
002222144	0.28	1.00	$0.28	005223749	187.00	1.00	$187.00
002222563	2.15	1.00	$2.15	005223749	187.00	1.00	$187.00
002222568	21.80	1.00	$21.80	005223760	117.00	1.00	$117.00
002222568	21.80	1.00	$21.80	005223760	117.00	1.00	$117.00
002222607	0.23	1.00	$0.23	005223760	117.00	1.00	$117.00
002222826	0.72	1.00	$0.72	005223987	126.00	1.00	$126.00
002227848	17.08	1.00	$17.08	005223987	126.00	1.00	$126.00
002233768	10.51	1.00	$10.51	005223987	126.00	1.00	$126.00
002239100	0.38	6.00	$2.28	005240230	0.72	1.00	$0.72
002239158	176.35	1.00	$176.35	005243420	0.16	1.00	$0.16
002242067	302.24	1.00	$302.24	005254280	44.46	1.00	$44.46
002242745	2.22	1.00	$2.22	005260539	3.77	1.00	$3.77
002244944	569.00	1.00	$569.00	005261650	0.08	1.00	$0.08
002244952	922.66	1.00	$922.66	005263847	0.28	1.00	$0.28
002254548	3.27	27.00	$88.29	005269873	6.17	1.00	$6.17
002256400	4.12	1.00	$4.12	005272361	20.17	1.00	$20.17
002258632	15.67	1.00	$15.67	005273634	2.27	1.00	$2.27
002258915	190.79	1.00	$190.79	005277025	0.25	4.00	$1.00
002258918	99.66	1.00	$99.66	005278519	2.06	1.00	$2.06
002258923	34.23	1.00	$34.23	005279227	1.19	1.00	$1.19
002258925	31.32	1.00	$31.32	005281311	1.43	1.00	$1.43
002258932	52.05	1.00	$52.05	005283763	1.69	4.00	$6.76
002258938	77.06	1.00	$77.06	005283796	1.89	1.00	$1.89
002258941	51.17	1.00	$51.17	005284287	0.80	2.00	$1.60
002258942	71.77	1.00	$71.77	005284753	1.62	2.00	$3.24
002258952	101.46	1.00	$101.46	005285892	3.26	1.00	$3.26
002259054	0.08	5.00	$0.40	005288019	1.46	1.00	$1.46
002259447	0.29	1.00	$0.29	005288019	1.46	1.00	$1.46
002262760	2.00	1.00	$2.00	005291034	18.32	1.00	$18.32
002266862	80.16	1.00	$80.16	005297875	3.70	1.00	$3.70
002267238	0.86	6.00	$5.16	005303179	0.31	2.00	$0.62
002269206	2.58	3.00	$7.74	005304444	11.38	6.00	$68.28
002270861	0.19	6.00	$1.14	005307953	1.64	6.00	$9.84
002271539	2.67	1.00	$2.67	005312230	0.20	4.00	$0.80
002271550	1.02	7.00	$7.14	005317451	1.15	1.00	$1.15
002271558	56.98	1.00	$56.98	005319482	1.18	1.00	$1.18
002273236	6.16	1.00	$6.16	005319515	2.10	1.00	$2.10
002274773	8.02	1.00	$8.02	005328208	32.90	1.00	$32.90
002276179	0.12	15.00	$1.80	005339518	0.19	2.00	$0.38
002278228	1.48	1.00	$1.48	005345291	50.64	1.00	$50.64
002281323	86.31	2.00	$172.62	005353039	198.00	1.00	$198.00
002286826	5.84	1.00	$5.84	005361550	0.98	1.00	$0.98
002287496	799.97	1.00	$799.97	005362649	46.47	3.00	$139.41
002292757	3.04	2.00	$6.08	005373888	0.36	2.00	$0.72
002304268	30.56	1.00	$30.56	005380904	5.83	1.00	$5.83
002305725	12.64	1.00	$12.64	005381032	58.73	1.00	$58.73
002306481	0.59	2.00	$1.18	005385471	1.20	13.00	$15.60

002312510	332.00	1.00	$332.00	005399539	1.10	2.00	$2.20
002313180	8.96	1.00	$8.96	005399705	50.41	2.00	$100.82
002313581	24.63	1.00	$24.63	005402779	6.24	1.00	$6.24
002316689	3.10	5.00	$15.50	005402973	60.91	2.00	$121.82
002316817	29.59	1.00	$29.59	005404155	25.11	2.00	$50.22
002319045	11.32	1.00	$11.32	005405077	6.07	1.00	$6.07
002324807	134.12	1.00	$134.12	005410039	3510.80	1.00	$3,510.80
002328302	2.81	1.00	$2.81	005412638	0.92	1.00	$0.92
002328587	97.39	1.00	$97.39	005413227	6.52	1.00	$6.52
002329083	0.57	1.00	$0.57	005417189	3.00	6.00	$18.00
002330848	1.43	1.00	$1.43	005417233	236.00	2.00	$472.00
				005417749	0.48	2.00	$0.96
			$155,491.39				**$80,111.86**

TOTAL COST = $235,603.25

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